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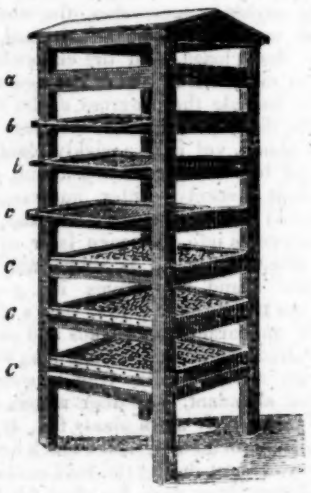
D. K. MINOR, Proprietor.] FOR MARCH, 1834. [SAMUEL FLEET, Editor.

ORIGINAL COMMUNICATIONS.

Rearing of the Silk Worm. By the Editor.

Apartments.—Almost any building will answer for rearing the silk worm; a barn, garden, apartments of the dwelling-house, provided they are dry, can be properly ventilated without exposing the worms to chilling currents of air, and kept free from insects, mice and other vermin. Boards, shelves, tables, or shallow boxes, will answer in absence of other more convenient apparatus.

The apparatus of the Rev. Mr. Swayne is recommended from its simplicity and convenience—rendering the apartments capable of being easily kept clean. It is a wooden frame, four feet two inches high, each side sixteen and a half inches wide, divided into eight partitions, by small pieces of wood, serving to form grooves, in which the slides, containing the worms, run in and out. The upper side, *a*,



is of paper, designed to receive the worm as soon as hatched. The two next, *b*, are of cat-gut, the threads about one-tenth of an inch apart. These are for the worms a little more advanced. The four lower ones, *c*, are of wicker work, split rattan, or netting, with openings of a quarter to half an inch square. Under each of these is a slide of paper, to prevent the dung from falling on those below. Spare drawers should be made for the two upper ones. When the worms are grown so large as to require more room, they are removed to large drawers of netting, or wicker work, where they remain until they show signs of a desire to spin.

The Eggs.—The fecundated eggs turn from a pale yellow color to a brownish slate color. They are kept in a convenient place—in a dry cellar, in a box, where they will not receive injury from mouldiness, and from mice, until the mulberry begins to throw out leaves. They are then placed in the kitchen, or other suitable place, where the warmth of the air will hatch them in a day or two.

Feeding the Worms.—It is desirable to have all the worms designed to be reared, hatched at the same time. As soon as they appear, the tender leaves, or trimmings of the mulberry, are gently laid over them. If they are fed with leaves they will require a fresh supply three times a day; if with the trimmings, once or twice will be sufficient. To prevent the leaves from becoming dry, they are kept in a cool place, in a glazed vessel, or by laying a board over them. The leaves, if gathered in wet weather, should be dried before they are given to worms. It is best, therefore, to gather a sufficiency for three or four days at once in fair weather. The older the worm the larger the leaves suitable for them.

Cleaning.—The shelves, or whatever the worms are placed on, should be carefully and frequently cleansed. Sometimes the boards are covered with old newspapers, which are turned and renewed. The worms can be changed from one part of the shelves to another by taking them up in the fingers, or by removing the leaves on which they are eating, and thus affording an opportunity to brush away the litter.

Different Ages and Moulting.—The most common varieties, of which the large white is recommended as the best, change their skins four times. These changes, called moultings, divide the life of the worm into five ages. The first moulting generally takes place on the fifth or sixth day after hatching, the second on the eighth, the third on the thirteenth or fourteenth, and the fourth on the twenty-second.

Before the worms moult or change their skins, they are less active, and indicate sickness or distress, by raising their heads. They should, in this situation, be disturbed as little as possible, and fed very sparingly.

Spinning.—When disposed to spin, the worms, true to the laws of their nature, will cease to eat, and begin to wander about. They now should be immediately supplied with conveniences for spinning, by placing on their shelves regularly made handles, brushwood, or broom corn. The last, if properly secured and spread out or pressed against the upper shelves, as recommended by G. B. Smith, Esq., of Baltimore, are the best. The worms will readily ascend these little trees, and diligently commence their useful work. Each one will spin its cocoon in three or four days; and in about six or eight days, they all will have finished their labor.

Breeding or Seed Cocoons.—The largest, best formed, and most firm cocoons, should be selected for the eggs of the future brood. The coarser floss, or wool silk, may be taken off, and hung on a thread, by the aid of a needle, without piercing the cocoons. In about a week or more the moths or butterflies will eat their way through the cocoon. They will now couple, and, by taking them in pairs, by the wings, they may be put, as many as convenient, on sheets of paper, where they will remain and deposit their eggs. When they are done laying they soon die. The sheets can be folded up, and put in a dry and cool place until the following spring. If allowed to remain in a warm room they will hatch. The sun should not be allowed to shine upon them at any time; and the room where the millers lay their eggs should no be molested by cats, mice, or insects.

Curing Cocoons.—When the cocoons cannot be reeled immediately after they are spun by the worm, the encircled chrysalis must be killed to prevent it from eating out, and thus destroying the cocoon for reeling. They are put in shallow vessels, or in baskets, and then placed in an oven moderately heated, to remain half an hour. Another method is steaming them. Mr. Smith, of Baltimore, recommends them, when raised on a small scale, to be put in a tight tin vessel, which is surrounded with another containing water heated, until the cocoons become as hot as boiling water. After this, they are spread out to dry. The percentage lost in the weight by curing is about 25, depending on the dryness. The cocoons will reel better immediately after they are finished by the worm.

Space for the Worms.—It is desirable that they should not touch each other. An ounce of good eggs will produce about 40,000 worms. The space these will require in their five ages may be in a proportion not far from the following square feet, 8, 16, 36, 86, 186.

Diseases of Silk Worms.—These are described as being numerous, and sometimes very destructive; but wholesome air, perfect cleanliness, avoiding feeding with wet leaves, are preventives. Chloride of lime has been recommended by some to purify the rooms, and others have found it injurious. If used, it should be sparingly. The fifth age is considered the most critical.

Quantities of Silk from Cocoons.—The estimates, in respect to the silk from the cocoons, are various, depending on their size and quality. We obtained one pound (16 oz.) of sewing and gloss silk from one bushel, containing 1940 cocoons, which were two years old. Mrs. Williams obtained nearly one and a half ounces from 244 cocoons. Miss Rhodes one ounce from the same number. The calculation of those who have had experience is from 2000 to 4000 cocoons for a pound of silk.

Profits.—It is very difficult to make an esti-

mate of the profits from raising silk worms. It is a fact that our climate is congenial to the worm and the mulberry. It is another fact that many millions of money are annually expended for foreign silk in various states of preparation and manufacture. These facts afford ample encouragement. The actual profits will depend on various other circumstances: whether the trees are set in lanes, avenues, unoccupied grounds, hedges, or in orchards—whether carried on a large or small scale—whether expensive or cheap labor is obtained. Like all other pursuits, its success depends on care and attention. The Morus multicaulis will undoubtedly be the most profitable tree to feed the worms.

The following estimate was by John Fitch, Esq. of Mansfield, Ct., in the Manual published by Congress. One acre of full grown white mulberries, set at the distance of one and a half rods, will produce 40 lbs. silk. For the first three weeks after the worms are hatched, one woman will do all the labor. For the next twelve or fourteen days five persons are required. During this last period there should be one or two men. If children are employed, a greater number than five are required. The picking of the balls and reeling the silk can be done by about the same number of women and children in ten to fifteen days. The lowest cash price is $5 per pound.

40 lbs. at $5 - - -		$200
Labor and Board -	$80	114
Spinning - - -	34	
Net profit per acre - -		$88

THE SILK WORM.—BY MRS. SARAH JANE HALE.

There is no form, upon our earth,
That bears the mighty Maker's seal,
But has some charm—to draw this forth,
We need but hearts to feel.

I saw a fairy young girl—her face
Was sweet as dream of cherish'd friend;
Just at the age when childhood's grace
And maiden softness blend.

A silk worm in her hand she laid,
Nor fear, nor yet disgust was stirred;
But gaily with her charge she play'd
As 'twere a nestling bird.

She raised it to her dimple cheek,
And let it rest and revel there—
O, why for outward beauty seek!
Love makes its favorites fair.

That worm—I should have shrunk, in truth,
To feel the reptile o'er me move,
But loved by innocence and youth,
I deemed it worthy love.

Would we, I thought, the soul imbue,
In early life, with sympathies
For every harmless thing, and view
Such creatures formed to please;

And when with usefulness combined,
Give them our love and gentle care—
O, we might have a world as kind
As God has made it fair!

There is no form upon our earth,
That bears the mighty Maker's seal,
But has some charm—to call it forth,
We need but hearts to feel.

Early sown Vegetables inferior in Quality and Quantity to those sown later. By H. H. [For the New-York Farmer and American Gardener's Magazine.]

Mr. Fleet,—The season is now approaching us rapidly when we shall be served with a variety of means and methods for procuring *early* culinary productions for the table. I do not know but there is room for improvement in this respect—doubtless, there is with many; but you will permit me to say that I have not a profound regard for a *forced* growth with any article in the vegetable kingdom. My reasons for viewing the subject in this light I will give. 1st. Because persons in general cannot make the necessary preparations, and bestow the extra care and service required to secure those early productions, and find themselves remunerated by the article. Persons who cultivate grounds with a view to supply a market may find themselves compensated for their labor in the sale of those early productions, and gentlemen of fortune can gratify their cravings for those premature productions a few days earlier than their neighbors, by applying time and money to that object; but this will not prove that the generality of your readers can adopt this course without a loss of time and money. 2. As far as my own experience is concerned, those *forced* productions are inferior in point of flavor to those which come in their season, and are often of a sickly quality. They are generally thrown into the market in an unripe state, when they possess scarcely any of the qualities which they obtain in their maturity; and the consequence is, sickness is prevalent in our cities. I recollect to have seen, within a few years past, a remonstrance from the Board of Health in Boston, or from the most eminent physicians of that city, against the practice I am now speaking of, and particular objection was made to the *forced growth* of the cucumber, and its early sale in market. This accorded so far with my own limited observation in the country, that I could not but consider it entitled to special consideration. 3. I am well satisfied, by my own observation, that more persons in the country deprive themselves of the luxuries of a good garden every year, by sowing too early, than they do by sowing too late, or not sowing at all. There is one remark almost universal every year with those whose gardens I have inspected during the season—"I sowed my seeds early, and they came up and looked thrifty for a while, but there came on a cold, wet spell of weather, which, with the aid of insects, destroyed them, about every one." There is, however, a remedy for this in almost every instance, in resowing after the destruction of the first sowing, if persons did not generally think that it would avail nothing to resow so late in the season. I have been in the practice, for a number of years, of noting down the month and the day in each year when I committed my different kinds of seeds to the soil, and this I have done on the bottom lands in the Connecticut valley, and on the high lands of New-England, and I find this note appended to my journal for June 15th, 1832,—"I am now fully convinced, that, with the exception of onions, peas, pepper-grass, lettuce, English turnips, and a few potatoes for early use, all kinds of horticultural produce, which are generally cultivated in New-England, will succeed best, nine times in ten, by not sowing until the last week in May." On the 27th of May, 1830, I planted my cucumbers, and they yielded abundantly. May 21, 1831, I planted cucumbers; on the 23d, I planted some more and on the 1st of June planted again. Those planted on the 21st of May failed, and those planted on the 1st June did better than those on the 23d of May. On the 18th of May, 1832, I planted cucumbers, and on the 2d of June I planted some more, and on the 4th of June I replanted where I sowed on the 18th of May, the first planting having failed; the last succeeded well. On the 31st of May of this same year, I replanted early bush beans, where I had planted on the 18th of this month with a failure. And on the 20th of June, I resowed the parsnip-bed, which was first sowed on the 8th of May; and from this last sowing I realized a good crop of parsnips. On the 23d of May sowed carrots, beets, peppers, cabbages, radishes, English turnips, and planted my cucumbers. All succeeded well, whilst most of my neighbors who sowed earlier were cut short in quality and in quantity. I will state in this connection that, in two instances, I have raised the finest onions I have ever raised from sowings in the first week in June, but they will ordinarily succeed better from early sowing. And now, if we will allow for difference of soil, and something for local situation, I will venture to have my position put to the test by the people of New-England, and by all others at the west of us, upon the same degrees of latitude, that, nine times in ten, what is considered *late* sowing will succeed best, with the exceptions I have made. One special reason is, as I conceive, vegetation never progresses rapidly until the soil and atmosphere attain to a certain degree of temperature, and it succeeds best when this is uniform. Cool nights are prejudicial to plants of all descriptions, so far as my experience extends; and to many they are almost fatal: they are so to the cucumber. A warm sun and a bland atmosphere during the day will put the juices of the plant into circulation, and open the pores; but if the succeeding night is cool, those juices stagnate, the pores close, and the progress of vegetation is suspended, and if this is acted over for many nights in succession, the stock of the plant assumes a sticky hardness, the pores are fast closed, and the channels for the sap to circulate in are contracted so as greatly to impede the progress of the fluids during the day; and although the plant survives the shock, yet it is a sickly plant, its leaves and tendrils are dwarfish and dry, and its fruit is scanty, bitter, and crooked, and indented with dark spots; whereas, the plant that comes into existence later in the season, when the earth is warm and the nights are bland, continues its growth through the twenty-four hours, has a fresh and lively appearance, overtakes and passes by its kindred vine, that has been long struggling with adversity; its fruit is straight, juicy, and abundant. Another reason why many of those early sown plants fail, is, because those small insects, called black lice, or fleas, prevail most during the cold season in May, and they draw from the plant the little life it derives from the earth, and it yields its life to an ignoble enemy! I would say, then, to my New-England friends especially, be not over anxious to commit your garden seeds to the soil, because you experience a few warm days in the beginning or in the middle of May, except those kinds of plants which experience has shown are the least affected by the cold and wet, and which require the longest season to reach maturity. You may be certain of a cold fortnight between you and summer, during which time, your seeds had better be out of the ground than in; but this you *may* do, and *ought* to do,—improve your *kind* of plants, have your ground well prepared for receiving the seed, and embrace the first sure indications of approaching summer to commit your seeds to the earth and to a beneficent Providence.

Respectfully yours, H. H.

Notes on Transplanting. By A. J. Downing. [For the New-York Farmer and American Gardener's Magazine.]

"The functions of the root are to fix plants in the earth, and to absorb nourishment from it. This absorption takes place almost exclusively by the extremities, which consist of a lax coating of cellular tubes, lying on a concentric layer of woody fibres, in the midst of which is placed a bundle of ducts."—[Professor Lindley.]

We wish to call the attention of *some* horticulturists to the facts stated in the above paragraph, not as something new, but as a fact not generally known, or, if known, is neither heeded nor acted upon. It has doubtless been observed by every vegetable physiologist, who has called in to his minute investigations the assistance of the microscope, how beautifully the *extremities* of the small fibrous roots are adapted to the introsusception of the food of the plant. Almost every common planter attaches an importance to these fibrous roots, but yet not that importance which they so eminently deserve. It is the common opinion of such planters, that the absorption of vegetable food takes place throughout the *whole surface* of that portion of the plant which is usually termed the root; and provided they retain a certain *quantum* of that necessary member, it is with many apparently a matter of indifference which particular part is lost, mutilated, or remains whole. Persons engaged in these operations should impress upon their minds the fact, that it is only the *extremities* of the roots of plants that serve the purpose of collecting and assimilating the material which is so necessary to the support of the branches, and that the larger parts of the roots only serve as channels through which this support is carried to the branches.

In transplanting, we would lay it down as a maxim, that neither root nor branch should be mutilated. It is remarkable that persons of considerable experience act in direct opposition to this rule, and do not give the subject sufficient reflection to convince themselves of its truth. No one has a doubt of success when he is transplanting a young tree, and the very reason of that success is the fact that he transplants the tree *entire*. It is a common remark, when speaking of trees of a certain size, that they are too *large* to be transplanted. We do not speak of such as are too large on account of their unwieldiness and bulk, but simply such as the experience of these planters has convinced them they cannot transplant with safety. Why are they too large? Is the plant or tree subject to any other natural laws? Certainly not; and he does not succeed so well—the operation does not proceed with such sureties of success, solely because it is not conducted in the same manner. The whole course, for some inexplicable reasons, best known to the planter himself, is conducted upon entirely different principles. In the first case, the subject is small—the plant is entire—not a root or branch is amputated. But let him transplant a *large* tree, and the routine is quite different: half at least of the roots are cut off, either as a matter of convenience or from principle; the extremities of the roots are often utterly disregarded, being either severed entirely, or so much bruised and lacerated as to be incapacitated from performing the service for which nature intended them. One would think, that to any reasonable person such a destruction of the essential organs of the plant would quite suffice. Not so with our transplanter. He has reduced the *root: ergo*, he must reduce the *top*. Accordingly, he takes his knife in hand and cuts off at least one-half of the branches, and consequently their accompanying leaves—he reduces the top to goodly proportions, and elegantly removes every branch which has the misfortune to displease his fastidious eye. "Leaves," say the vegetable physiologists, "serve to elaborate the sap—they expose it to the light and air, and cause it to undergo peculiar chemical changes before it is fitted to enter into the permanent composition of the plant; they are therefore essential organs." This is indeed a different view of the case from that presented to you by many transplanters. "Leaves and branches," say they, "serve to consume a portion of the sap; each leaf and each branch draws away a portion of nourishment from the other, *therefore*, if I cut half of the branches away, will not the remaining ones receive double the portion of sustenance they otherwise would?" Admirable logic! Every one knows the analogy which exists between vegetable and animal life. But would any person in his senses think of cutting off a child's arm because it had had the misfortune to lose its foot? Would any one think of amputating one leg of a beast in order that the others might receive more nourishment?

Nature, when left to herself, produces no more organs than are necessary for the proper existence of her subjects. It is obvious, therefore, that the removal by art of any considerable portion of those requisites cannot but be attended by a consequent diminution, for the time, of the vital powers. How necessary, then, does it appear to a reflecting person, that when so important an era in the life of a vegetable as the forcible transplanting of its whole body takes place, that every essential member of that body should be preserved entire. If the roots, leaves, and branches of a tree are *essential* to the thriving condition of that tree whilst standing in a robust state in its native site, are not those organs still more essential to enable it to recover the shock of being transplanted? The planter above referred to will, *in fact*, tell you this himself. Ask him which of the two trees transplanted—the small one, with its limbs and roots entire, or the larger one, with his system of decapitation practised upon it—which of them was afterward the most thriving. He will tell you without hesitation that the first grew luxuriantly at once, but that the latter was perhaps several years in *recovering*. "But," says he, "this is owing to the greater age of the larger one." Not at all; recent experiments have proved conclusively that trees of almost any size may, by attending to the principles here pointed at, be transported with safety, and continue in a state of high luxuriance and health: and I confess that it is a strong proof of the influence of habit and custom, that persons of considerable experience, with the facts before their eyes, still go on in the old way.

I have been induced to these remarks principally from witnessing the recent transplantations of forest trees throughout the country. In this case, indeed, the system is carried to its utmost limits. Mutilation and decapitation are the grand principles of its professors; the beautiful *trees* which *were*, after reduction into the *bare poles* which *are*, both in their appearance and success, are such excellent examples of the good *taste* and sound *principles* of the proprietors, that no correct horticulturist can view them without feelings sentiments of horror for the former and pity for the latter.

A. J. Downing.

Newburg, N. Y., February, 1834.

New Jersey Marl. By Jas. S. Lawrence. [For the New-York Farmer and American Gardener's Magazine.]

Upper Freehold, Monmouth co., N. J.
January 13th, 1834.

Mr. Fleet,—Sir: In an extract from the New-York Farmer I have seen a communication from D. A. Ames, relative to the New-Jersey marl. I am happy to find such men as Mr. Ames engaged in inquiry so laudable, and trust the result of his analysis will be of signal benefit to our agricultural friends, and at the same time add a ray to the increasing light of science. Mr. A. will pardon my attempt to correct an error or two which he has been led into, as to the time the effect of marl was brought into notice. He states that "its effect was accidentally brought into local notice about sixteen years ago, by a farmer, who, having a ditch dug in a meadow, had the soil scattered over the piece. The ditch or drain happened to cut a vein of this marl, and the produce of the meadow was three-fold the ensuing season upon the spot where the marl was scattered." As to the beneficial result, no doubt Mr. Ames is correctly informed, but marl was brought into local notice in Monmouth county as early as during the war of the Revolution. An old gentleman, a practical farmer, and acquainted with the circumstance, informed me that Mr. Vanmater, in digging a well on his farm, discovered marl in the well. He caused it to be spread on an adjoining field. The beneficial effects were great, and, I am told, may still be discovered by the luxuriance of the herbage on the soil where it was scattered. A Mr. Scott, likewise, about the same time, discovered some in the same way, by sinking a well. The marl was scattered, not with the expectation of profit, but to remove the dirt (as he termed it) out of the way; but, to his surprise, there sprang up a most luxuriant growth of grass where he had it thrown, and the effects are still evident. Yet they did not avail themselves of the profit they might have realized from the discovery; nor was marl used to any considerable extent in this county until about thirty years ago, and then by a few farmers only; since that period the use of it has gradually increased, and there are now farms rendered from two to four fold more in value by marl alone. I am acquainted with fields in this county that have been rendered highly fertile by marl alone long before Mr. Alexander M'Gregor used marl, unless he used it earlier than nine years ago. There are several kinds of marl in this county, varying in color, texture, chemical properties, location, with respect to depth in the earth and time of deposit: some lying on the surface, and forming the most fertile soils, while others lie deep beneath the earth; some beds containing oyster and other shells, intermixed with the teeth and bones of sharks, and other aquatic animals, in a very perfect state of preservation. There is likewise a very singular kind of stone, or crystallization, found in abundance in some marl beds—form, round, varying from two to four inches in length, having a pointed socket in the larger end, the other end terminating in a point,—of easy fracture,

externally having the appearance of having been formed in a double mould, the sides of which did not form a complete joint; splits easily lengthwise; when broken crosswise, the broken ends presenting the appearance of rays, diverging from a common central line, passing lengthwise of the stone (or belumnite, or, as our farmers say, thunderbolt) It is composed principally of lime, and is sometimes, though rarely, found in the state of gypsum, or sulphate of lime. In some marl pits, the shells, bones, &c., are decomposed, the form or prints only remaining in the marl. In other pits, situated in dry banks, the shells, &c., have undergone decomposition, but have since become hard, and when broken fine under the hammer, have a perfect resemblance to old dry mortar of lime and sand. In other pits of more ancient deposit very few forms remain, unless the bed lies deep below the springs; my authority for calling these deposits more ancient may be questioned. My reasons are these: In several instances, I have discovered two beds or strata of marl, the one from ten to fifteen feet above the other; the upper bed containing the remains of aquatic animals in abundant quantities, the lower bed but few marks of shells or bones to be seen; the lime of the shells and bones of the upper stratum is frequently found in the same state as that in the shells and bones recently thrown up on the sea-shore. The lime of the shells and bones of the lower stratum is usually in the state of gypsum. If the two beds had been deposited about the same time, the shells, &c., of the sub-stratum would probably be found more perfect than the upper; the existence of sulphur is evident in the upper as well as in the lower bed; but its action has been less powerful, of shorter duration, or both, in the upper than in the lower bed; is easily proved from the fact that the lime of the upper bed is a carbonate, phosphate, or hydrate, and that of the lower, in many instances, a complete sulphate of lime or plaster. The upper bed, as Mr. Ames observes, *has the appearance of grains of sand*, each grain united to its fellows by lime and decomposed animal and vegetable matter. The lower bed very fine sand, with very little, if any, grit or sharpness to the touch; frequently feeling, when wet, almost as smooth as tallow, united by allumina and animal and vegetable remains. These are some of the reasons why I call the lower stratum the more ancient bed. The upper is usually separated from the lower by a stratum of sand, colored yellow by iron, the sand very similar to our beach sand, excepting color. The effects of the upper bed marl are not usually so powerful; it may be scattered over the soil in large quantities; 125 or 130 loads have sometimes been put on an acre with great benefit, but a much less quantity is more frequently used. The marl of the lower bed must not be used in such large quantities; from 5 to 10 loads is a good dressing on light land, and from 15 to 25 the extent on any land; more is likely to destroy vegetation. The celebrated Squancum marl, from its appearance, resembles the upper stratum; it is probably equal, if not superior, to any in the county. I do not pretend to say that two strata, or rather distinct beds, exist at Squancum, or in all our marl districts, but I say they do exist in many places. I have not had the opportunity of examining the marl beds in the vicinity of Mr. M'Gregor, but, from Mr. Ames' description, they resemble beds in the western section of this county very much; the marl from which is known to be excellent. This, Sir, is at your service: published or unpublished, it is my humble mite thrown in as common stock; if I am in error, may some one correct. Yours, &c.

JAS. S. LAWRENCE.

Fancy Pigeons—the Fantail. By D. A. AMES. [For the New-York Farmer and American Gardener's Magazine.]

MR. FLEET,—I now perform my promise by sending you a sketch of the Fantail Pigeon. I named this variety in a former communication, and its very singular appearance induces me to send you its representation. This pigeon is sometimes called the broad-tail shaker, from the tremulous and shaking motion of its head and neck. They are generally of a beautiful white, and occasionally are ornamented with a tuft of feathers on the back part of the head, something resembling a horse's mane. The tail, which is composed of 36 broad feathers, is turned back, so as to meet its head, and thus resembling a lady's outspread fan. The feathers are placed in a double row, and make a striking appearance. They are very ornamental around a house, and they are birds that cannot fly far at a time, therefore are always to be seen. The reversed position of the feathers of the tail protects them from the hawks, which are generally very destructive to the common stock doves, which are usually kept in the country. The fantail pigeon gives little trouble, and may be fed on refuse corn, flax seed screenings, peas, barley, or, in fact, any kind of grain. As they readily fetch a good price in the markets, farmers might turn it to account by raising them. A few boxes nailed against the sunny side of the barn would be all the accommodation necessary. I shall continue to send you a drawing and description of different varieties for each number of the Farmer; and will show the good housewife how, by adding a few pigeons to her stock of poultry, she can clear enough to purchase (if nothing else is more wanted) a new silk dress or two every Christmas. D. A. A.

13 Beekman street.

The Use of Ground Corn and Cobs. By MR. OGDEN. [For the New-York Farmer and American Gardener's Magazine.]

MR. EDITOR,—I have been for some time using corn and cobs ground together for my cattle, and with good effect. It is an impression among farmers that there are some injurious effects arising from its use. I will state how they may be avoided. In the first place, the corn should be perfectly ripe. In the second, a large quantity should not be ground at a time. It should be kept perfectly dry, for a little moisture will cause the cob to mould. In the third, when this food is used constantly, potatoes or carrots should be given two or three times a week. With these precautions, the cob and corn ground together will be a wholesome and cheap food for cattle. I give my horses eight quarts per day, and, notwithstanding they labor hard, they gain in flesh and perform well.

I grind my corn and cobs in the bone mill, which will turn out many bushels in the course of an hour.

Brooklyn, February, 1834.

Retrospective Criticisms on the First Series of the New-York Farmer, Vol. I, Nos. 11 & 12. 1828. By the EDITOR.

SHEATHING SHIPS' BOTTOMS.—The late Dr. Mitchill gives an account of an experiment in sheathing a ship's bottom with leather. After a voyage of 22 months, it was literally covered with oceanic animals, and in such quantities as to impede the progress of the vessel. The Doctor enumerates 14 species.

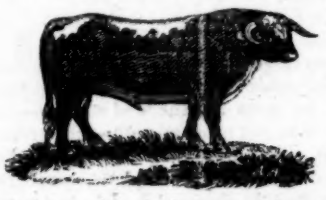
PLASTER OF PARIS.—After giving the various opinions entertained on the operation of this substance, Judge Buel coincides with Sir H. Davy, in supposing that it is useful only to those crops that are found to contain it on analysis. He recommends sowing it on Indian corn, at the rate of one to two bushels per acre, before the last ploughing.

HORSE SHOE.—Stephen R. Kean, of the city of Washington, took out a patent for a horse shoe. The shoe consisted of two pieces, united at the centre, or toe, by a pivot, permitting the shoe to expand as the hoof enlarges. It was considered to possess many advantages: but we hear nothing of its being used.

MACHINE FOR PLANTING SEEDS.—This was invented by Messrs. Roberts, of Denmark, N. Y. It was adapted to all kinds of seeds. When the ground was prepared, a man could plant ten acres in a day. We should like to know if it was different from those so generally used in England.

NEAT CATTLE OF GREAT BRITAIN.—We give engravings of the principal breeds of British cattle:

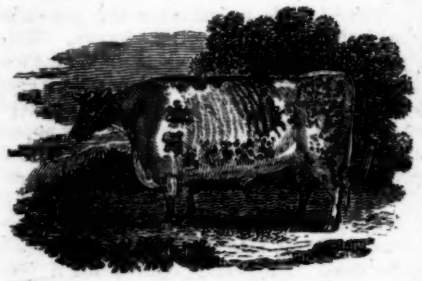
The *long-horned or Lancashire breed of cattle* is distinguished from others by the length



of their horns, the thickness and firm texture of their hides, the length and closeness of their hair, the large size of their hoofs, and coarse, leathery, thick necks; they are likewise deeper in their fore quarters, and lighter in their hind quarters, than most other breeds; narrower in their shape, less in point of weight than the short horns, though better weighers in proportion to their size; and though they give considerably less milk, it is said to afford more cream in proportion to its quantity. They are more varied in their color than any of the other breeds; but, whatever the color be, they have in general a white streak along their back, which the breeders term finched, and mostly a white spot on the inside of the hough. In a general view, this race, notwithstanding the singular efforts that have been made towards its im-

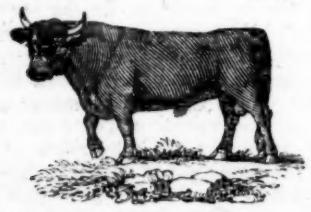
provement, remains with little alteration; for, excepting in Leicestershire, none of the subvarieties (which differ a little in almost every one of those counties where the long horns prevail) have undergone any radical change or any obvious improvement.

The improved breed of Leicestershire is said to have been formed by Webster, of Cauley,

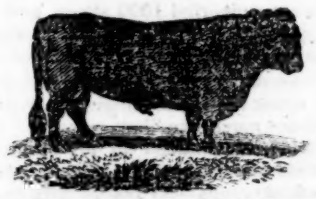


near Coventry, in Warwickshire, by means of six cows brought from the banks of the Trent, about the beginning of the present century, which were crossed with bulls from Westmoreland and Lancashire. Bakewell, of Dishley, in Leicestershire, afterwards got the lead as a breeder, by selecting from the Cauley stock; and the stocks of several other eminent breeders have been traced to the same source.

The short-horned, sometimes called the Dutch breed, is known by a variety of names, taken from the districts where they form the principal cattle stock, or where most attention has been paid to their improvement; thus, different families of this race are distinguished by the names of the *Holderness*, the *Teeswater*, the *Yorkshire*, *Durham*, *Northumberland*, and other breeds. The Teeswater breed, a variety of short horns, established on the banks of the Tees, at the head of the vale of York, is at present in the highest estimation, and is alleged to be the true Yorkshire short-horned breed. Bulls and cows from this stock, purchased at most extraordinary prices, are spread over all the north of England, and the border counties of Scotland. The bone, head, and neck of these cattle are fine; the hide is very thin; the chine full; the loin broad; and the carcase throughout large and well-fashioned; and the flesh and fatting quality equal, or perhaps superior, to those of any other large breed. The short-horns give a greater quantity of milk than any other cattle: a cow usually yielding twenty-four quarts of milk per day, making three firkins of butter during the grass season: their colors are much varied, but they are generally red and white mixed, or what the breeders call flecked. The heaviest and largest oxen of the short-horned breed, when properly fed, victual the East India ships, as they produce the thickest beef, which, by retaining its juices, is the best adapted for such long voyages.



The Devonshire cattle are of a high red color, (if any white spots, they reckon the breed impure, particularly if those spots run one into another), with a light dun ring round the eye, and the muzzle of the same color, fine in the bone, clean in the neck, horns of a medium length, bent upwards, thin-faced, and fine in the chops, wide in the hips, a tolerable barrel, but rather flat on the sides, tail small, and set on very high; they are thin skinned, and silky in handling, feed at an early age, or arrive at maturity sooner than most other breeds. Another auther observes, that they are a model for all persons who breed oxen for the yoke. The weight of the cows is usually from thirty to forty stone, and of the oxen from forty to sixty; the North Devon variety, in particular, from the fineness in the grain of the meat, is held in high estimation in Smithfield.



The polled or hornless breeds.—The most numerous and esteemed variety is the Galloway breed, so called from the province of that name, in the south-west of Scotland, where they most abound. The true Galloway bullock "is straight and broad on the back, and nearly level from the head to the rump, broad at the loins, not, however, with hooked bones, or projecting knobs, so that, when viewed from above, the whole body appears beautifully rounded; he is long in the quarters, but not broad in the twist; he is deep in the chest, short in the leg, and moderately fine in the bone; clean in the chop and in the neck; his head is of a moderate size, with large rough ears, and full, but not prominent eyes, or heavy eyebrows, so that he has a calm though determined look; his well-proportioned form is clothed with a loose and mellow skin, adorned with long soft glossy hair." The prevailing color is black or dark-brindled, and, though they are occasionally found of every color, the dark colors are uniformly preferred, from a belief that they are connected with superior hardiness of constitution. The Galloways are rather undersized, not very different from the size of the Devons, but as much less than the long horns as the long horns are less than the short horns. On the best farms the average weight of bullocks three and a half years old, when the greater part of them are driven to the south, has been stated at about forty stone, *avoirdupois*; some of them, fattened in England, have been brought to nearly one hundred stone.

Curing Butter.—A writer, signing himself "Old Dutchess," says butter should be cured without the aid of water. "The practice I recommend," says he, "from long experience, is as follows: When the butter comes from the churn, put it into a clean wooden bowl, and with a wooden butter ladle, proceed to work it, by breaking it down at the sides and turning off the whey which is separated in the process; at the same time strew on the salt by degrees, so that it becomes intimately incorporated. Continue working it thus until the butter-milk is apparently all worked out. Put it then by in a cold cellar till next morning, by which time the salt is dissolved, when the ladle is to be again applied, and continued as long as any butter-milk can be separated. The butter is then fit for use or laying down. For preserving, stone-ware jars are preferable, as they impart no taste to the butter, and exclude the air. Pack down the butter without any salt between the layers, and cover with two inches of strong brine, previously boiled, skimmed and suffered to become cold. If a scum should afterwards appear on the brine, which will sometimes happen in damp cellars, renew the pickle. The impurities which rise to the surface while boiling, or are found in the residuum at the bottom, are far greater than any one would suppose, who is not in the habit of boiling his brine for meats, butter, &c. Butter thus manufactured and cured will keep a twelvemonth or more perfectly sweet; and the rich delicacy of flavor imparted to that made in May and June, by the young herbage, will be in a great measure preserved. It is compact, without being too adhesive; cuts with a smooth surface, and shows neither lumps of salt, butter-milk, nor crumbles."

American Wine.—In a long letter from the late W. Elderton Allen, the opinion is advanced, that it is impossible to know what kind of wine may be produced in the United States, except by experience and time.

Cough in Sheep.—A late writer states that he found, on dissecting sheep that died with a disease, the symptoms of which were a cough, the lungs infested with slender worms. To others similarly affected, he gave, with their food, Scotch snuff twice, and tar and sulphur once a-day. This treatment resulted beneficially.

The following interesting article is from the "Quarterly Journal of Agriculture, Mechanics, and Manufactures," published by D. K. Minor, 35 Wall street, New-York. Each number contains about 300 pages, and embellished with numerous engravings: price $5 per annum.

Rearing of Saxony Sheep in the United States, No. I. By H. D. Grove. To the Editor of the Quarterly Journal of Agriculture, &c.

Hosick, near Buskirk's Bridge, P. O., N. Y.
February 11, 1834.

Sir,—I promised my friend, V. Le Ray de Chaumont, of Jefferson county, an account of the success I have had with my flock of Electoral Saxony sheep. For various reasons I have delayed in fulfilling my promise. It requires years of attention, experiment, and observation, to arrive at just conclusions in breeding sheep. On some points I have not been able to decide until now; but having partly completed some experiments, I with pleasure comply with the request of my friend, and that of yours, Mr. Editor, in giving a sketch, though a very imperfect one, of the introduction and success of my flock of Saxony Sheep.

It was in the summer of 1826 that I first thought of settling in this country, and turning my attention to farming, and to rearing fine sheep—an animal with which I had been familiar from a boy, and to the management of which I had, while in my own country, given more attention than to any other branch of rural husbandry. Although I was repeatedly told that fine sheep would deteriorate in this country, I could see no reason why they should; and after an examination of the Eastern States, and the State of New-York, I concluded that this useful and interesting animal not only would not deteriorate, but would thrive and do exceedingly well, with proper care and attention. In addition to this encouraging conclusion, the pledge given by the United States Government to protect domestic productions, led me to return to Germany. I selected a flock of the pure

blooded Electoral Saxony sheep, and embarked with them for America. I arrived safely, became a wool grower, and a citizen among the Sons of Liberty. I was fully satisfied in my mind that the article of wool would increase in value, and form, at some future period, the most important item in the raw material produced in this country for domestic manufactures. In a country so extensive and so excellent for sheep, possessing by nature advantages far superior to most European countries, there seems to be no obstacle in the way, if domestic manufactures and free labor are protected against the immense capital and cheap labor of the old countries.

Late in the fall of 1826, I embarked at New-York in a vessel bound for Antwerp, a port in Belgium, and from thence travelled over land to Saxony, my native country, where I arrived in January, 1827. I thus had the winter before me to make my selection and prepare for a return. Being personally acquainted with the purest and most celebrated flocks, I was enabled to obtain sheep of a superior race, the originality and purity of which could be authenticated by records kept from the time when these sheep were first introduced and reared by Augustus, Elector of Saxony, and King of Poland. In commemoration of this sovereign, this breed has been called Electoral sheep. Having been fully satisfied of the purity of the blood, I made a purchase of 60 yearling ewes, 25 bucks, and some lambs, and arrived at New-York in the ship Albion, Capt. Geo. Lee, the last of June, 1827, without sustaining any loss. The animals, however, as may be easily imagined, suffered severely during the passage. I drove them first to Shaftsbury, Bennington county, Vermont, where I kept them a little over a year. I endeavored to keep them in the same manner as they were kept in Saxony, but met with some obstacles. I could not procure suitable accommodations for them, nor obtain such fodder as I desired; consequently they did not do as well as I could have wished. I, however, lost but few sheep during the first year. I raised some lambs; but being unacquainted with a Vermont winter, I had them dropped in February; and the weather proving to be very cold, and having no comfortable stables, and no succulent food for the ewes to make milk, I lost a considerable number of the lambs, or rather they were frozen to death.

In the summer of 1828 I had an addition to my flock of forty yearling ewes, and some bucks, selected by a friend, an excellent judge, originating from the same flock as my previous importation. They arrived safely, and fully answered my expectation as to quality. I now had 100 imported ewes to lay the foundation of my flock, the number I at first fixed upon to import. During the three first years I did not intend to make many sales of ewes, but sold some every year. Since then I have sold a lot every season. I made it a point to sell as many bucks as I could find purchasers, and with considerable success. Since I have had a farm of my own, I have been enabled to keep them in better condition than when I hired them kept. I have not lost more than one per cent. during the last three years; and I carried my flock through the last two winters without any loss. I have thus been more fortunate in raising lambs than in three preceding years, when I raised only 8 lambs out of every 9; while in 1831 and 1832 I raised 12 out of every 13; and last year I raised one from every ewe, and had two more lambs than ewes, two of which having had twins. This good success I mainly attribute to feeding my ewes with potatoes. In Saxony, sheep, especially breeding ewes, are fed with succulent food once a day, during the winter. Large crops of vegetables are raised every year; and some sheep farmers make them the main crop, having others as mere tributary streams. I could state many surprizing instances, in which farms fifteen or twenty years ago could not maintain 600 sheep, but have within the last 10 years supported 1500 sheep, and doubled the quantity of grain. Great quantities of straw are used for litter. Wethers are fed on straw and vegetables only, and grow fat. The straw they leave litters the stables, and produces much excellent manure. I cannot too much recommend to my brother wool-growers in this country, the cultivation of succulent crops—no others turn to so good account. In Saxony, where the winters are not as rigorous as they are here, all sheep, both of fine and coarse wool, are sheltered, and no man would think of wintering them without shelter. Experience has taught me that proper housing is equally necessary in this country. Sheep not only do better when sheltered, but consume less food, and add greatly to the quality and quantity of manure: to increase and economize which are objects of first consideration to the sheep farmer. Foddering out hay from stacks is evidently a waste of manure. Just around the stack it is too thick, and at a greater distance it is too thin to benefit the soil.

Buildings for sheep may be so constructed as to shelter the sheep, and to put over head all the hay they may need during the foddering season. Such a building on a side hill affords a great deal of room. I would recommend the stables to be at least eight or nine feet high, with windows to let in sufficient light. There should also be ventilators to carry off all impure and admit fresh air. In Saxony they pay particular regard to these objects. Their stables are so constructed as to obtain all the warmth and all the air that are requisite to preserve the health of the sheep. I have my stables on the above plan, and the capital invested pays high interest, at least twenty per cent.

H. D. Grove.

Cultivation of Peach Trees. By D. B. [For the New-York Farmer and American Gardener's Magazine.]

In the New-York Farmer for January, page 2, is an article on the cultivation of the peach tree, by R. H. B., in which he says that "peach trees may be preserved by good management, twenty, and probably forty or fifty years." Whether it be true, as he asserts, that the peach tree is "destroyed by a worm which feeds on the inner bark of the tree, at its root," I am not about to admit or deny. If, however, it is true, as he asserts, "that the peach tree, if the worm is kept out of the root, will live at least twenty years; and that this may certainly be done by attacking them the first year of its growth, and continuing to extract them for three or four years in succession," it would seem that any means by which a "lodgment" of the worm in the "inner bark of the tree could be *prevented*, would conduce more to the general health and vigorous growth of the tree than any attack upon them, after, a "lodgment" was once effected, could possibly do. Now, my object is not controversy, but to suggest to R. H. B., and others, what I deem an effectual method of preventing a "lodgment" of the worm in the "inner bark of the tree." Previous to 1832 I had made repeated trials to cultivate the peach tree, with the same uniform ill success. Till the second or third, and sometimes till the fourth year, my trees were healthy and their growth vigorous, when they would begin to decline and soon die, and often without any apparent injury from the worm. From repeated failures, I had wholly abandoned their cultivation as hopeless. In the spring of that year a friend of mine, agent for the Messrs. ——, had a lot of peach trees consigned to him for sale. They were offered for a time at private sale, and finally advertized to be sold at auction; but a part only could be sold, the trees having been out of the ground so long, and the season so far advanced that there remained no prospect of selling them. I had from the agent the offer of a bundle of the trees, and found them, as I supposed, refuse trees, probably taken from a part of the nursery which was to be cleared to make room for a new crop. Unpromising as they were, I made them the subjects of the following experiment. A hole was dug, large enough to admit the roots in their natural position; after which, sufficient earth was hauled over the roots to cover the smaller ones, and support the tree in its position. A kettle of common tar was at hand, warmed so as to enable me to spread it freely over the larger roots, and up the body of the tree several inches above the surface of the ground. The holes were then filled with earth as usual. All the trees thus treated, (23 in number,) started, but the greater part of them, as I expected, from the unfavorable circumstances already related, died in the course of the summer. Those that survived the first summer, (8 or 10 in number,) have grown very vigorously, and are now apparently as healthy as any trees I have of any description. I have from time to time examined them, and, as often as appeared necessary, have removed the earth and made a fresh application of tar, and again replaced the earth. This is in no case necessary more than twice in a year, generally once is sufficient; and, perhaps, as a general rule, the fall would be the best season, if but one dressing was given in a year, for the reason that the winter would not perceptibly diminish the quantity; and if applied in the fall, would always be in season to prevent the early ravages of the worm.

Granting what R. H. B. assumes to be the fact, that the worm is the cause of the destruction of peach trees, it is certainly important, if possible, to *prevent* its ravages. He proposes a "remedy," which he says "consists in searching for the openings in the bark at the root, and taking them out." In this, as in every other case, *preventive* is better than "remedy." Let then R. H. B., and all others who would prevent a "lodgment" of the worm "at the roots" of their peach trees, try the application of tar as above directed; and if faithfully done, I hesitate not to say that the *preventive* will be found more effectual, and attended with less trouble, than the "remedy," and may, by

wholly excluding the worm, help to settle the question, whether it is the cause of the decay of peach trees, or only a consequence of it. D. B.

Ridgefield, Ct., February, 1834.

Remarks.—We add a letter to the signature, because, as originally signed, it was that of a well known writer. We hope to hear often from D. B.

Inquiries respecting the Soil and Productions in the vicinity of Cape Florida. By E. Church. [For the New-York Farmer.]

Sir,—I observe in two of the late numbers of your valuable work, several letters from Dr. Perrine, in relation to the Cape Florida settlement. Having previously had some intention of removing to the south, I should feel much obliged if you could, through that gentleman, or in any other way, enable me to procure some *precise* information on the present state of that settlement. Such, for instance, as the value of land at this time; whether to be bought of government, or individuals? I mean within a short distance of the place, say a mile or two? How the payments would be required to be made? Whether the country offers any advantage of society? What the temperature usually is during the different seasons? The nature of the soil? Whether good water is abundant? The kinds of timber most prevalent? The general appearance of the country—whether or not picturesque? The vegetation luxuriant, including grass, and the water scenery beautiful? Whether provisions are plentiful and cheap, and of what sort? Whether the resources for building are to be found at a reasonable rate? Advisable to take any description of stock, in moving there; and if so, what sort? Negroes, I suppose, are valuable there, and it would be best to take such as would be wanting for domestics, and for agricultural purposes? And last, though not least, is that scourge of almost all southern latitudes, the *musquito*, very abundant at Cape Florida? I speak feelingly on this subject, having suffered severely by them, and not being at all disposed to rank them among the minor evils to which poor humanity is subject. Dr. Perrine has given it decidedly as his opinion, that the climate, notwithstanding its near approach to the tropic, is remarkably healthy.

I must beg pardon for troubling you, perhaps indiscreetly, on this aubject, but I have so many proofs before me in your work, of your very great obligingness, that I trust you will excuse me, in consideration of the very great importance of the matter to me. Should the information obtained be satisfactory, I shall make a visit to the Cape, and probably become a settler there. I have been living in Europe as American Consul, for seventeen years, and a part of the time in the south of that continent, and am therefore not altogether satisfied with the winters of this fine and fertile state. I am, sir, your most obedient, very humble servant. E. Church.

Wood Lawn, near Lexington, February 2, 1834.

Remarks.—In compliance with the request of Mr. C. we state what little we know of Florida. We believe most of the land in the southern part of the peninsula belongs to the general government, and on account of some unsettled claims is not for sale. In other parts of East Florida, land can be obtained of individuals, on both the east and west sides, at low prices. As yet, but very little social society can be enjoyed near Cape Florida. The soil is generally sandy and poor; but on the margins of the inlets and rivers, excellent land is found. The principal kinds of timber are pine, cypress, and live oak, the last of which is of great value. Our impression is, that the country is not picturesque, though the scenery, after cultivation, may be beautiful. Wild grass grows luxuriantly, and supports wild cattle in considerable numbers. Wild game is in abundance. Oysters are found plentifully. Sweet potatoes and melons are of great excellence. Most of the productions of tropical climates are of early culture. It would be advisable, on moving there, to take but little live stock. A gentleman of our acquaintance once carried on quite extensive agricultural operations in East Florida, by the aid of white laborers from the north, and says by avoiding mid-day sun, no inconvenience was experienced. It is said, however, that the late Hon. W. Wirt was not successful in his experiment with white laborers on his Florida plantation. The musquito, for a considerable part of the day, is very troublesome.

The above answers to Mr. C.'s inquries are very far from being full and satisfactory. We hope others will do the subject justice.

Fermented and Unfermented Manures. By the Editor.

In former numbers of the Farmer our readers have found articles on this subject, which they have found, we trust, sufficient to make it plausible that there is more science in the use of rotted than in unrotted manure. We invite attention to the following from the Edinburgh Quarterly Journal of Agriculture:

"Sir Humphry Davy was the first who embodied into a system the principles of chemical science as applied to the operations of agriculture, and which system was first promulgated in a course of lectures delivered before the late Board of Agriculture. In that system was detailed all that was at that time known of scientific agriculture. Among the many other statements in that system occurs the following, in regard to the application of rotten dung. 'As soon,' says this distinguished chemist, 'as dung begins to decompose, it throws off its volatile parts, which are the most valuable and the most efficient. Dung which has fermented so as to become a mere soft cohesive mass, has generally lost from one third to one half of its most useful constituent elements, and that it may exert its full action upon the plant and lose none of its nutritive powers, it should evidently be applied much sooner, and long before decomposition has arrived at its ultimate result.' This opinion was promulgated in 1809, and it has till lately received the confidence of most chemists. But experience, nevertheless, continued to act in direct opposition to this opinion. Manure continued to be applied in 'a soft cohesive mass,' and it continued to raise large crops; whereas, had it been applied 'long before decomposition had arrived at its ultimate result,' the result would inevitably have been a loss of crop, manure, and labor.

"It is certainly an erroneous assumption to say, the first stage of fermentation in dung must necessarily throw off its most valuable parts. Every dunghill of fresh dung throws off a gaseous exhalation a very short time after it is put together, and the quantity thus thrown off is regulated by the state of the atmosphere. But this exhalation does not consist of the valuable gases; it is a mere evaporation of the water contained in the dung. The same hot haze may be seen flickering over a fallow field in a sunny day in summer. Nobody could with truth assert that this haze arises from the disengagement of the gases in the dung which had previously been inserted into the soil, when it is clearly nothing more than the evaporation of the moisture in the soil. In Saxony, hay is made by heaping together the cut grass, fermenting it for a short time, and afterwards drying it in the sun; but in this process nobody would say that the nutritious portions of the grass are dissipated, when it is only the superabundant aqueous portions of the grass which are driven off by heat. To say, therefore, the first stage of decomposition in a dunghill throws off 'the most valuable, and the most efficient' parts of the dung, is just to say the vapor of water is the most valuable part of dung.

"It is true, were the fermentation continued after all the water in the dung was evaporated, a considerable increase of temperature would ensue; and when the texture of the fibrous portions of the manure began to decompose, there would be an evolution of valuable gases. Direct experiment has proved the escape of gases from a heap of dung which has been long fermenting. But what harm accrues to the dung as a manure from the escape of these gases? None whatever. We are told that these gases constitute the food of plants, and if they are permitted to be dissipated by decomposition, the quantity of nourishment in the heap of manure will, of course, be so much diminished; that if the bulk of the dung heap be diminished one half or one third by excessive fermentation, the quantity of nourishment to the crops will be diminished in a greater ratio. These cautions have long been whispered in the ears of practical men, but they have listened to the advice with a provoking indifference. Like ducklings, when they first take the water, they have continued to disregard every remonstrance of their foster brethren against injurious practices, raising and devouring their food, and enjoying themselves with the greatest complacency in their vocation. It is true, and we must admit it, that some of the gases constitute the food of plants; but it does not follow that plants would receive them as food directly as they are disengaged from a fermenting and heated mass; nay, it is probable they would rather reject the food that would injure them. But as plants are not endowed with locomotive powers, they cannot avoid the food which is directly presented to them; they will therefore be obliged to partake of it, even in an injurious state, and in thus taking it they die. Accordingly, we invariably find that plants suffer from the contact of fermenting dung, and it is this well known fact, more than from any other circumstance, which deters farmers from applying dung in an unprepared state. It is sometimes applied to the soil, it is true, in an unprepared state, but long before the

crop is brought into contact with it, and after it has undergone fermentation in the soil. Though this application of dung is recommended by men of science, it is performed from the very opposite principle which they recommend. They recommend it, because the gases arising while the dung is fermenting are absorbed by the soil, and are thence given out for the use of plants; on the other hand, farmers perform it because the fermentation will have ceased before the crop is inserted into the ground. Which of these is the most rational reason? The practical one undoubtedly; for it is surely impossible that the slight covering of earth upon the dung can prevent the escape of the elastic gases, however it may retard fermentation.

"We may conclude from analogy, that plants, like animals, have a mode of consuming their food peculiar to themselves. They may not necessarily consume the food in the state we choose to prepare it for them. All they require is, that the materials which supply their food shall be placed in the soil in the state least injurious to them, and within their reach, and they will feed themselves. Now, what is the least injurious state in which dung can be presented to any crop? Experience has always said, in 'a soft cohesive mass.' Recent discoveries show that practice has always spoken in accordance with science. Consequently, this recent concurrence of science is a tardy justification of practice.

"The history of the recent discoveries alluded to, which show the scientific accuracy of practice in applying dung in a rotten state, is this. In 1802, the celebrated chemist and analyst, Klaproth, received from Palermo a substance which exuded spontaneously from the bark of a species of elm. To this substance Dr. Thomson gave the temporary name of *ulmin*. It dissolves speedily in a small quantity of water, in which respect it is like a gum; but when the solution is very much concentrated by evaporation, it is not the least mucilaginous or ropy, nor does it answer as a paste. In this respect *ulmin* differs very essentially from gum. When a few drops of nitric or oxymuriatic acid are added to the solution, it becomes gelatinous, which, when slowly evaporated to dryness, and treated with alcohol, and again evaporated, leaves a light brown, bitter, and sharp resinous substance. Thus, it appears that ulmin, by the addition of a little oxygen, is converted into a resinous substance. In this new state it is *insoluble* in water. This property is very singular: that a substance soluble in water should assume the resinous form with such facility is very remarkable.* Berzelius has found this curious substance in all barks; Braconnot, in saw-dust, starch, and sugar. But what is more to our present purpose, Sprengel and Polydore Boullay have found it to constitute a leading principle in all soils and manures. Sprengel appropriately calls it *humin*, from its existence in all soils, *ulmin* being given to it by Dr. Thomson several years ago as a temporary name.

"The chief food of plants consists of the carbonic acid gas and humic acid mixed with water. Every manure is therefore only valuable which contains these substances in the greatest degree, and in such a state as they are most easily available to plants. Now, practice recommends the rotting of every kind of dung, whether simple or compounded, and the reducing it into a uniform dark brown 'soft cohesive mass,' similar in consistence to fresh peat, so that it may be cut with the spade; because it maintains, that dung in this state is much more valuable to crops than fresh dung, or mere litter, whatever may have been the quantity of carbonic acid gas which had evolved during its fermentation. Recent discoveries have proved the wisdom of this recommendation of practice, because they have proved that rotted dung contains much more carbonic acid gas and humic acid, weight for weight, than fresh dung. There is, it is true, a loss of bulk in rotting fresh dung, and of an evolution of carbonic acid gas during its fermentation; but the question is not what the volume of carbonic acid gas alone is in dung, but what is the most available state in which the carbonic acid gas in the dung can be presented to plants; and this is the rotted state, because in that state alone it contains the humic acid in quantity. All the black carbonaceous matter in dunghills is the humin ready to be converted into humic acid, which is, in fact, the cooked state of the food of plants. Moreover, practice finds that fresh dung is injurious to vegetation, and recent discoveries now inform us that this arises from the acridity of the ammonia, which is always present in unfermented dung. Fermentation drives off the acrid ammonia. Fresh dung is found to injure plants by *burning* them, which is a very appropriate term to describe the action of ammonia. In like manner, stale liquid manure is not so good a top-dressing to grass as fresh, or when it is largely mixed with water; because science now informs us, that ammonia becomes concentrated in stale liquid manure, and is therefore in an injurious state for plants; and that it is necessary to mix liquid manures largely with water, in order to dilute the ammonia and allow the proper action of the humic acid, which exists in large quantity in them. Again, it is not an uncommon practice to cover a dunghill with earth in hot weather, and this is now explained, not as it hitherto has been, that the earth absorbs and prevents the escape of the carbonic acid gas, which it could no more do than a balloon made of gauze could prevent the escape of hydrogen gas; but that a violent fermentation in the dung is checked by the earth partly excluding the atmospheric air and rain water, the oxygen in either of which is indispensible to continue the process, it being this oxygen which forms the carbonic acid gas by uniting with the carbon of the dung. The necessity of checking a *violent* fermentation in a dunghill which contains a large portion of horse-dung, is to prevent it being what is technically called "*fyrefangit*," a state of dung which is useless.

"In regard to composts, it is found that to mix lime with fresh or rotten dung is to waste it, because, as is now explained, the lime takes up and renders useless the carbonic acid gas which they contain. In like manner, a compost of fresh dung and weeds, green leaves, grass, turf, and green vegetables, without lime, is valuable, because all these substances supply abundance of *humin*. On the other hand, lime promotes the fermentation of peat earth, dry leaves, and every thing which contains hard woody fibres, and supplies *humin* in quantity.

"It is requisite to attend to the seasons of manuring. Dung in any state is never applied to the land in winter; it is best applied in spring: it is injudicious to expose it to a hot sun in heaps; and it is improper to allow it to remain a length of time in heaps on the field. These practices are now easily explained, and are quite in accordance with science. In winter there are no crops in the field to which the dung can be applied: in spring, on the other hand, plants and seeds are ready to shoot forth into life; their roots are then most active to devour the nourishment which may be placed within their reach. To spread out rotted dung in hot weather, and let it lie, must be to subject its component parts to the highest degree of evaporation; and to allow it to remain in large heaps for a time on the ground, is to give the portions of the ground which are covered by the heaps an undue advantage.

"We thus see that science now agrees with that practice which has been pursued for years with unexampled success. It is consolatory to practitioners to think that their experience, though unknowingly to them, has guided them to success on really scientific principles. This agreement of experience and science should teach every one that science *and* experience, and not science alone, ought to be made the test to try the accuracy of opinions. Unfortunately for the credit of science, the test of accuracy hitherto, in the application of putrescent manures, has not been submitted to practice. It is always for the interest of practice, however, to listen attentively to the suggestions of science. One of these suggestions, as a rule to try the value of all sorts of manures, is, that they shall be judged by the proportion of carbonic acid gas and humic acid they contain, or may evolve after they have been applied, and also by the quantity of water which they are able to take up and retain. The rule, when confined to carbonic acid gas and water, was supposed to lead to a correct view of the subject, independently of ascertaining the proportion of humic acid. But when the rule was confined to these substances before the discovery of the importance of the humic acid, we see the errors which even men of science fell into. Knowing now the effects of the important principle of humic acid, it ought to be strictly retained as a term in the rule; because, were the ability to retain water alone taken as a test, bog earth, the most sterile substance in an undecomposed state, might be decided to be the best of all manures; and were the evolution of carbonic acid gas alone taken as a test, chalk should be an excellent manure,—and so it would always be could it be brought to take up and retain enough of water to dissolve a portion of it, which it can do by means of the humic acid. Now, let us apply these tests to rotten dung. There can be no question that rotten dung is very much superior in imbibing and retaining water, to what is fresh, unfermented, or beginning to ferment. A simple experiment can easily prove this to those who doubt the fact. 'With respect to carbonic acid gas, humic acid, and the minor materials of the food of plants,' says a recent author, 'there can be as little doubt of the superiority of rotten dung, which is, in fact, in a state very nearly approaching to the best leaf mould or virgin loam, and though a weighed quantity of fresh dung certainly will yield more carbonic acid gas than when this same quantity is allowed to ferment and rot, in conse-

* Thomson's Chemistry, Vol. IV., p. 696-7.

quence of much of it being given off during these processes, yet the weighed quantity of fresh dung will bear no comparison in this respect with rotted dung. The quantity of humic acid is very considerably greater in rotted dung."* Hence, in treating in future of all putrescent manures, the very important effects of the humic acid must never be overlooked."

* Rennie's Alphabet of Scientific Gardening, p. 55.

Suggestions relative to Gardeners' Work for March. By the EDITOR.

The month of March, like a fickle and inconstant person, is neither admired nor loved. Sometimes, indeed, it puts on a cheering and smiling aspect, inviting us to visit its lawns and its promenades, and to listen to the first notes of spring music. Again, all is chill and gloom; no cordiality, no welcome reception, but all is forbidding and stormy. Its character being known, very little is expected from it; and consequently, most people are on their guard against its fickleness and deceptive appearances. Most gardeners venture to do little more than to make diligent preparations for the more mild, uniform, and lovely April. See Vol. VI., page 75.

In reference to early and late sowing, we refer our readers to the article in this number, page 66. Although late sowing may insure greater crops, yet, after a long winter, it is very desirable and very natural to have early vegetables. Should March be proportionably mild, as the past February has been, vegetation will be some ten or fifteen days earlier than usual. The seeds of many kinds of vegetables may be put in boxes and pots, and placed in the kitchen, or other warm situations; and when the season is sufficiently advanced, the young plants should be removed with the dirt or soil into the ground in the open air. Peas may very easily be advanced in this way. Some plant their peas, beans, and potatoes, on inverted sods of earth, placed in convenient boxes, and kept moist. When the time arrives to transplant them into the garden, the sods are easily taken up with growing vegetable, and properly placed in their permanent place.

RHUBARB, Rheum rhaponticum.—Those who have this vegetable should, if they have not done it before, place over each plant a barrel, or large box, which, if covered with heating horse manure, will soon cause them to grow and be beautifully blanched. In the latter part of the month, or early in April, the leaves will be sufficiently large for making the much admired rhubarb pies.

TRANSPLANTING.—As soon as the ground is thawed, those who conveniently can, should begin to transplant. It is much better to commence early this month than to run the risk of delaying until vegetation starts. Those who are desirous to have fruit trees already in bearing, and their premises embellished with sizeable ornamental trees, should immediately undertake the business. See this number, page 67.

MANURE.—Whatever diversity of opinion may be entertained respecting rotted and unrotted manure in field culture, there should be none in reference to garden operations. Let the manure be well fermented and in a moist state, particularly in a sandy soil. A more uniform growth and greater certainty of maturity are the consequences of using fermented manures. For flowers and vegetables, bone manure has advantages. This should undergo fermentation. See this number, following page.

On reference to the following list of garden seeds, which we take from the catalogue of H. Huxley & Co., 81 Barclay street, our readers will not only be able to make a selection of the varieties of the seeds they choose to sow, but by consulting their own judgment in respect to season and soil, will find the times of sowing denoted. The capital letters at the ends of the generic kinds are for the months in which they are sown.

ARTICHOKE, M. Ap. *Artichaut.*
ASPARAGUS, Ap. *Asperge.*
BEANS, Eng. F. M. *Fève de marais.*
" " Early Mazagan.
" " " Long Pod.
" " Broad Windsor.
" " Green "
" " " Long Pod.
" " White Blossom.
" BUSH, Ap. to Ag. *Haricot.*
" " Early Yellow.
" " " China.
" " " Canterbury.
" " " Negro.
" " " Dun or Quaker.
" " " Mohawk.
" " Refugee.
" " Red Cranberry.
" " White "
" " Bonavista.
" POLE, My. to Jy. *Haricot, à rames.*
" " Large Lima.
" " Sieva or Carolina.
" " Scarlet Runners.
" " White Dutch.
" " Red Cranberry.
" " White "
BEET, Ap. to J. *Betterave.*
" Early French Amber.
" " Blood Turnip.
" Long Blood Red.
" Silver, *used as Seacale.*
BORECOLE, Ap. to Jy. *Chou frisé vert.*
" Green Curled.
" Purple "
BROCOLI, Ap. My. *Brocoli.*
" Early Purple Cape.
" Late " "
" White Cape, or Cauliflower.
" Sulphur, *fine.*
" Dwarf Siberian, *very hardy.*
" Branching, *used as Asparagus.*
BRUSSELS SPROUTS, Ap. to J.—*Chou de Bruxelles à jets.*
CABBAGE, F. My. S. *Chou.*
" Early Dwarf.
" " York.
" " Battersea.
" Sugarloaf.
" Paynton.
" Imperial.
" Vinach.
" Red for Pickling.
" Large Bergen or American.
" " Drumhead.
" " Green Glazed.
" Turnip-rooted, or Kohlrabi.
COLEWORTS, J. to Ag. *Chouvert.*
CALE-SEA, My. *Chou marine.*
CARROT, M. to J. *Carotte.*
" Early Horn.
" Long Orange.
" " Red.
" Altrincham, *fine.*
CAULIFLOWER, F. My. S. *Chou-fleur.*
" London Early.
" " Late.
" Walcheren.
CELERY, M. Ap. *Céleri.*
" White Solid.
" Red "
" North's Large
" Turnip-rooted, or Celeriac.
CHERVIL, M. *Cerfeuil.*
CHARDOONS, Ap. *Cardon.*
CORN SALLAD, Ag. S. *Mache ou doucette.*
CRESS, M. to N. *Cresson alenois.*
" Curled, or Peppergrass.
" Broad-leaved.
CUCUMBER, My. to Jy. *Concombre.*
" Early Frame.
" Long Prickley.
" Short "
" Long Gr. Southgate.
" " " Turkey.
" Gherkin, or West Indian.
CORN, INDIAN, My. to Jy. *Mais.*
" Early Golden Sioux.
" " Canada.
" " Tuscarora.
" " Sweet, or Sugar.
" Pearl, or Pop.
" Mottled.
EGG PLANT, M. to My. *Melongène.*
" Purple.
" White.
ENDIVE, Ap. to Jy. *Chicorée.*
" Green Curled.
" White "
" Batavian.
LEEK, M. Ap. *Poireau.*
" Broad Scots.
" London Flag.
LETTUCE, M. to S. *Laitue.*
" Early Imperial Cabbage.
" " White Silesi "
" Brown Silesia "
" Hardy Green "
" Brown Dutch "
" Grand Admiral "
" Maltese "
" Large Asiatic "
" Drumhead "
" Bath Cos.
" Green "
" Malta "
" White "
" Egyptian "
MELON, My. *Melon.*
" Nutmeg.
" Green Citron.
" Pine Apple.
" Cantalaupe.
" Mediterranean, *very superior, will keep till Spring.*
" WATER, My. *Melon D'eau.*
" " Carolina.
" " Long Island.
" " Apple-seeded.
" " Very superior, 45lb.
MUSTARD, M. to N. *Moutarde.*
" White.
" Brown.
NASTURTIUM, Ap. My. *Capucine.*
OKRA, My. *Gombo.*
ONION, M. *Oignon.*
" White Portugal.
" Strasburgh.
" Blood Red.
" Silver skin, *for pickling.*
" James' long Keeping.
" Tripoli, *very fine.*
PARSLEY, Ap. to Jy. *Persil.*
" Double Curled.
" Hambro'.
PARSNIP, M. Ap. *Panais.*
" Hollow Crowned.
" Large Dutch.
PEAS, F. to Jy. *Pois.*
" Early Single, Bl. Frame.
" " Nimble Taylor.
" " Double Blos. Frame.
" " Washington.
" " Charlton.
" " Golden Hotspur.
" " Woodford's Green.
" " Bishop's Dwarf, *true.*
" Marrowfat "
" Blue Imperial "
" " Prussian "
" Spanish "
" Sugar "
" Tall Sugar
" " Knight's Marrow.
" Dwarf " "
" Green Marrowfat
" " Nonpareil.
" White "
" Blue Scymetar.
PEPPERS, M. My. *Piment.*
" Large Bell.
" Squash, or Tomatoes.
" Long Cayenne.
" Yellow Sweet.
" Cherry.
" Large Ox Heart.
" Chili, or Bird.
PUMPKINS, My. *Citrouille ou Potiron.*
" Large Cheese.
" Fine Family.
" Mammoth.
RADISH, M. to O. *Rave.*
" Early Frame.
" Scarlet short top.
" Salmon, Transparent.
" Purple.
" Long White.
" Red Turnip, or cherry.
" White "
" Black Spanish.
SALSAFY, M. Ap. *Salsifis ou Sersifis.*
SCORZONERA, M. Ap. *Scorsonère.*
SKIRRET, M. Ap. *Chervis.*
SORREL, Ap. *Oseille des Jardins.*
" Broad leaved.
SAVOY, My. *Chou de Savoie.*
" Green Curled.
" Globe.
SPINAGE, M. to S. *Epinard.*
" Round, or Summer.
" Prickly, or Winter.
" New-Zealand.
SQUASH, My. *Potiron.*
" Early Bush.
" Summer and Winter Crook-neck.
" Vegetable Marrow.
" Lima or Cocoanut.
TOMATOES, M. to My. *Tomate.*
TURNIP, M. to My. *Navet.*
" Early White Dutch.
" " Yellow "
" " Stone "
" Red Top Garden.

POT, SWEET AND MEDICINAL HERBS.

Anise,
Angelica,
Balm,
Basil Sweet, and bush,
Caraway,
Coriander,
Dill,
Fennel,
Hyssop,
Lavender,
Marjoram, Pot and Sweet
Purslane, green,
" golden,
Rhubarb, English,
" Turkey,
Rosemary,
Sage,
Savory, Summer,
" Winter,
Succory,
Thyme.

Directions for the Use of Bone Manure. By — Ogden. [For the New-York Farmer and American Gardener's Magazine.]

Mr. Editor: *Sir*,—Permit me, through the medium of your useful paper, to present to the agricultural community some hints on the use of ground bone for manure. The first and great object is to have the bone dust well fermented. The process is very simple—nothing more being necessary than to dampen it sufficiently to set it fermenting. The best method, however, is to make a compost of it with stable or yard manure, and let it ferment together. After it is fermented, it answers a very good purpose as top dressing for grass or winter grain, and may be applied early in the spring. If it is spread at the time of sowing, at the rate of 30 to 35 bushels per acre, it is harrowed in. This manure is applied with good effect to corn in the hill. Instances, however, of its too free use in this way have been known to fail; I should, therefore, recommend it to be applied broadcast. On a dry soil, especially, it is very beneficial to potatoes, particularly in a state of a fermented compost.

I would again repeat, that the great mystery in using bone is to have it fermented. Even old bones, that have been bleaching for scores of years in the fields, when ground, will very easily ferment and make an enriching and active manure. Gardeners will find many advantages in the use of bone. It does not introduce weeds, nor insects, but is considered prejudicial to the latter. Its small bulk, lightness of carriage, and great durability, are some of its general recommendations.

Brooklyn, February, 1834.

Remarks on the Communication of B., on the Excretory Matter of Plants. By the Editor.

After the admission which B. makes, at page 33, that the spongioles take up substances "including poisons" indiscriminately, and that "after the plant has appropriated to itself so much of the mixed mass as is congenial to its habits or wants, the residue is cast off into the soil again," we cannot conceive how he can deny that this "excrementitious matter is a poison to the same species of plant which gave it off." What we consider a poison is that which is unfriendly or injurious to the healthy growth of plants. The first reason which he advances in support of his opinion is, that this excreted matter is liable to be taken up the second and third time, and thus be destructive to the plants. His second reason, which he asserts as a consequence of the first, is that the whole family of perennials would be destroyed. These reasons, to say the least of them, are founded on extreme suppositions. He appears to have forgotten that the spongioles are not in the same places, even in one season of active vegetation, but are constantly moving in various directions in quest of food. The spongioles of a towering oak are some ten or a hundred feet beyond where those were that afforded the little sapling nourishment. Besides, it is to be supposed that the effects of the excrementitious matter is counteracted by the roots of other kinds of plants and trees, by chemical actions taking place in the soil, and by numerous changes produced by frost, heat, rain, and air. In practice we do find that both annuals and perennials, after having occupied the soil one or more years, will not succeed well unless others of a different kind intervene, even when the application of any known manure is made. The legitimate deduction, therefore, is that the excrementitious matter is at least one cause, unless a more plausible reason is shown and the doctrine of exhaustion of the specific food being the sole cause must fall to the ground, and there remain, until it can be ascertained what this specific food is, and by actual experiment prove that "an annual supply will supersede the necessity of a rotation" of crops.

B.'s answer to the question "Why one crop is a preparation for another," is unsatisfactory. The common reason assigned, that of mechanical pulverization, is, independent of tillage, too inconsiderate to be taken into account. To say, that because the preparatory crop "does not consume the specific food required for the succeeding crop," therefore this succeeding one is benefitted by that which preceded it, is to us not sound reasoning. The crop that follows is better for having been preceded by the preparatory one, and therefore there must have been more than a negative effect; positive good must have been produced. We now come to the conclusion, that the "dissimilar habits and wants" of the succeeding crop have had additional available food provided by the crop that preceded.

We do not exactly comprehend the answer in reference to the feeble offspring of forest trees. If he refers to the shoots or sprouts from the stump, we all know that generally, on cutting off timber, "leaves enough to elaborate the sap" are produced, and that a healthy growth is the consequence. A barren rocky district is first covered with moss: this affords nourishment for stinted shrubbery: the leaves of these fall off, and in a series of years afford a thin coating of food for forest trees. These continue to thrive for ages, and alternately to die and send up young sprouts, or seedlings, and yet finally, notwithstanding there has been a constant increase of vegetable food from their leaves and trunks, they give place to a different kind. Why is this? In the language of farmers, "the soil has become tired of them." We imagine it is pretty difficult to say there is less specific food than when this species of tree first began to grow.

In our article, page 14, we quoted, by the usual marks, the question, "Why, in Belgium and Holland, are wheat and madder preferred to all other crops as the precursors of flax?" The answer, "If such is the fact," makes it expedient for us to refer the reader to Blackwood's Quarterly Journal of Agriculture, for March, 1833, page 162, paragraph 2d. We do not know what B. means by "the madder, in particular, leaving the soil in excellent tilth," as a reason or as an answer to the question. It cannot be pulverization nor cleanliness from weeds. Several other crops will secure the objects better; and, besides, the Dutch thoroughly weed every foot of their flax in the spring.

In the present state of chemical science and of experimental farming, we think a writer is in great danger of getting into deep water who attempts to designate the specific food of any crops. Because nitrogen and lime have, on the authority of some chemists been detected in wheat, therefore to draw the conclusion that animal manures and lime are the specific and requisite, or indispensable food of plants, is not warranted by the present state of scientific knowledge, nor by the general experience of farmers. On this part of the subject we may say something on a future occasion.

In reference to excrementitious matter from roots, we confess that all reasoning, in the present state of science and practice, must necessarily be crude, and founded on uncertain data. All that we contend for is, that the doctrine of exhaustion of specific food is not sufficient to explain the principle of rotation of crops. We scarcely take up an agricultural periodical that does not, in one or more communications, indirectly confirm us in our opinion. Let one suffice for the present. Dr. J. P. Beekman, of Kinderhook, N. Y., in the Farmer's Register, attributes the conversion of the barren, sandy plains of that vicinity into lands of great fertility, to clover. "It appears," says he, "to be a law of nature, that an animal or plant will not feed well on its own remains; so of clover: without the ground is in a measure exhausted of its remains, the seed does not, in the first, take, and in the second place, do well." After one, two, or three, grain crops are taken off, the clover will again, says Dr. P., do well. We could now ask why? Does the soil contain more specific food than it did before it was "in a measure exhausted?" If so, then the wheat, the corn, the rye, or the oats, the peas, the potatoes, or any other intermediate crops, must have furnished it. And how? Not, we presume, by "mechanical pulverization," nor by the little stubble that may have been turned in. We leave the problem for others to solve.

Excrementitious Matter from Plants. By R. M. W. [For the New-York Farmer.]

Mr. Fleet,—Come, let us reason together concerning the excrementitious deposition of plants in the earth by their roots. The doctrine contradicts all my notions of vegetable economy, but I may be in error, and could wish, if so, to be corrected. We will suppose, for argument's sake, a quince stock grafted with a sweet apple; this graft again grafted with a sour apple; this grafted with a pear: each having a limb of its peculiar kind, and producing first a quince, then a sweet apple, then a sour apple, then a pear. It seems to me that the plant receives from the earth the same principles as though it had never been grafted. The original stock produces a quince; the sap goes a little further and reaches the sweet apple graft; all those principles which produce a quince are thrown off, and only those retained which are peculiar to the sweet apple; a little further the same sap reaches the sour apple graft; then a new modification takes place, and a sour apple is produced; a little further and it reaches the pear graft, and a pear is produced. Here are four different kinds of fruit produced from the same sap. Is it not then obvious, that these modifications owe their peculiar qualities to the force of the bark and leaves? It would be straining a point to suppose that the sap descended from the pear through the sour, sweet apple, and quince, and finally deposited in the earth an excrementitious and poisonous deposition. In fact, I believe a living plant derives nothing save water from the earth by its roots, and deposits nothing in it. The sap as it ascends is modified by the pores of the bark and leaves. Thus we see the cicuta

and cabbage growing side by side, and receiving the same principle from the earth; but this principle is modified in the cicuta so as to produce a deadly poison, in the cabbage a wholesome vegetable, and in the grafted fruit tree, the quince, the sweet and sour apple, and pear. So, if we observe, we shall find that the same water is modified in various ways to produce the wild turnip, the horse radish, and all the various productions of vegetation. Yours, R. M. W.

Potter, Feb. 7, 1834.

Mr. Fleet,—Come, let us reason a little further concerning this excrementitious matter deposited by plants from their roots in the earth, of which Mr. Macaire, Professor Lindsley, the Editor of the New-York Farmer, and others, have talked so much. We have traced the sap from the root through the quince stock, the sweet and sour apple stock, and it has produced a pear. Now, it has to descend: on leaving the pear graft it must be modified in some way to adapt it to the sour apple graft, then to the sweet apple, and to the quince. Now, suppose all these modifications to have taken place, and the sap descending in the quince stock, it reaches the root and deposits in the earth some poisonous matter. Surely this poisonous matter, if so deposited, would be found on analysis; but it has never yet been discovered by the strictest chemical analizists. We may sow the seeds of twenty different plants, some poisonous, some esculent, some sour, some bitter, and some sweet, all in the same earth, and each will produce its peculiar likeness, but, on the strictest analysis of the earth in which they grow, no quality congenial to either plant is found. Is it not then obvious, that each plant has pores through which are evaporated all those qualities which are not adapted to their nature? Why should we not find some narcotic quality in the earth where cicuta or the poppy have grown? Perhaps some such discovery has been made, but I have not heard of it.

R. M. W.

Potter, Feb. 8, 1834.

Specific Food of Wheat. By R. M. W. [For the New-York Farmer and American Gardener's Magazine.]

Question.—What is the specific food of wheat?
Answer.—Animal matters, lime, &c.

Mr. Fleet:

I feel constrained to doubt the correctness of your correspondent "B." with respect to animal matter and lime being indispensible to the growth of wheat, for the following reasons: 1st. In the district of country where I reside, I am not aware of the existence of a particle of lime stone within ten miles square: we have to bring it from fifteen to twenty-five miles, at an expense of 25 to 31 cents per bushel, and I am not aware of its having been used as a manure. It is considered too expensive for this purpose. Yet we raise good crops of wheat. I do not understand exactly what "B." means by *animal matters*. If he means the carcases of animals, or their excrements, I am rather inclined to believe he is in error; for our new lands produce good crops, and I am not aware that any animal manures have been used on such lands. The vegetable accumulation has been always found sufficient. If "B." will take 50 ounces of unslacked lime, pound it fine, mix with it 17 ounces of pounded ice or snow, I presume it will slack. Yet ice and snow are said to contain no caloric. It would follow, then, that the lime does not derive its caloric from the water. The subject is worthy of minute inquiry, and I hope will receive it through the medium of the Farmer. R. M. W.

NEW-YORK FARMER.

MARCH 1, 1834.

"Of all employments, by which man procures subsistence, the most ancient, the most honorable, and the most pleasing and independent, is agriculture."

"An effort to do good, and even a word of wisdom and truth, in due season, was NEVER LOST."—*Dr. Rush.*

Lansingburgh, Feb. 24, 1834.

D. K. Minor,—Dear Sir: Enclosed I send you thirty-six dollars, eighteen of which are from subscribers to the New-York Farmer, twelve for the Mechanics' Magazine, and six for the Railroad Journal. The names of subscribers to each are annexed, to which you will please credit the amount.

I expect to be in New-York in the month of March, and hope then to hand you other names, and the amount of subscription at the same time. I am, truly, your friend,

Alexander Walsh.

The above very acceptable letter with its contents came duly to hand, for which the writer will please accept our thanks, and, at the same time, permit us, we trust, publicly to acknowledge his numerous favors.

Mr. Walsh often visits New-York; but, for years, has not made a visit to our office without adding one or more names to our list of subscribers. The aid of such a friend and patron to works like ours is of immense advantage to us, particularly as he not only refuses to receive a commission for his services, but also pays in *advance* for his own copy of the Farmer. A few more such friends would insure us a wide circulation, and a liberal compensation. We mean to *merit* them.

Specific Food of Plants: *Mr. Fleet,*—It is said that a certain curious gardener grafted an apple tree as follows: red crab, green crab, Siberian crab, Newtown pippin, sweet pippin, fall pippin, Spitzenburg, bond pairmain, greening, gilliflower—in all, making 20 sorts; some red, some green, some sweet, some sour, some juicy, some dry; and every variety of color, size and flavor.

Now, I ask your correspondent "B." what is the *specific food* of such a tree? I must confess I should be puzzled to find out any specific food that would suit so great a variety, but perhaps your correspondent "B." can tell, and I should be glad to learn.

R. M. W.

Potter, Feb. 22, 1834,

Mixing Old and New Wheat.—*Mr. Fleet:* Your correspondent, J. B. in the Farmer, page 2, seems to have misunderstood the views of R. M. W. with respect to mixing old wheat with new.

R. M. W. never doubted that old wheat was dryer than new, and the mixing together, therefore, in a damp climate, would tend much to preserve each from mildew. The observation of J. B., that old flour will take more water than new, and is therefore more profitable to the baker, is too obvious to admit of dispute, but the moisture in the new wheat is supplied by water added to the old, and hence the profit to the baker, as the water costs nothing. But the mixing of wheat, old and new, for any other purpose than to preserve the new wheat from mildew, cannot be conceived of by R. M. W.

Potter, Feb. 5, 1834.

Remarks.—In Vol. VI., page 242, is a lengthy article by Professor M. Anthony, M. D., on the Unhealthiness of New Wheat. Prof. M. advances the opinion that grain for bread stuffs "require a certain length of time after being well ripened and gathered before they are suited for diet." The question is, do the English mix old and new wheat to destroy the unhealthiness of the new; or, in other words, will it accomplish this object?

Pine and Cedar Tree united.—*Mr. Fleet:* I have just discovered a natural curiosity on my farm, which I should like you to see. It is a pine and a cedar tree completely combined, yet show distinctly the two species of timber in the grain of the wood, in the bark, shape of the tree, the branches, and leaves. I shall preserve it as a curious phenomenon in nature.

Yours respectfully, Uri Emmons.

New-Jersey, February, 1824.

The Black Tongue.—*Mr. Fleet:* I consider the black tongue in horses as a local inflammation, and should think depletion the proper remedy. The balls recommended in my former communication, page 5, are calculated to make a permanent regulation of the bowels; but a more rapid depletion may be proper, in which case I would advise moderate bleeding in the neck, the use of the Ipecac. tea; if the horse will not drink he should be gargled, say half a pint of tea with three half-pints of water, given twice a day. Perhaps a pound of salts may be needful; but the expedients recommended in the Genesee Farmer I think improper. Copperas, alum, and borax, are all astringent, and should never be used, either for man or beast, so long as any fever exists.

These gargles generally do more hurt than good. They have no tendency to remove the cause; and though little of them is taken into the stomach, yet that little will inevitably increase the fever.

Yours, &c. R. M. W.

Potter, Feb. 6, 1834.

Botts in Horses: *Mr. Fleet,*—I hasten to notice a gross error in the February number, page 143, of the Farmer. It is directed to give a quarter of a pound of iron rust daily to a horse after doctoring for the botts. In such doses the iron would certainly produce costiveness and fever. A quarter of an *ounce* is quite sufficient. In such small doses it would be beneficial, but in large doses of a quarter or half a pound, it must prove injurious. I can see no use in bleeding. The blood, when there is fever, might be taken, but otherwise not. Milk sweetened with molasses only, and followed with brine, would be quite as good as butter. Then the purgatives to carry off the brine; then the iron, to restore the strength. You should be careful in prescribing medicines, to understand the *why* and *wherefore*. Carlo.

February 20th, 1834.

THE WEATHER.—February of 1834 will be on record as a remarkably mild month. It partook more of the genial warmth of the early part of April, than of one of the most severely cold months in the year. But very few nights have occured when ice was formed. The Hudson was open as far as A'bany on the 27th. Many kinds of trees and shrubbery have very considerably expanded their buds. Greenhouse and parlor plants look beautiful, and are in great forwardness. A Savannah paper of the 12th says:

As an evidence of the warmth of the season, we mention that the flowers of spring, among them the native jessamine, are unfolding their beauties to our view. The peach tree is in blossom—a precursor, we fear, of the blighting frost, which will probably, ere long, nip their beauty in its bud, and teach us in Nature's language the uncertainty of earthly anticipations.

We conclude with some lines "To a Mild Day in Mid-Winter," from the Knickerbacker:

Why art thou come, bright day, so soon,
With thy balmy breath like a breeze in June?
Thou hast journey'd far from a southern clime,
Where the orange blooms and the tender lime;
Where buds and the full-blown rose are seen,
In groves leaf-robed in their summer green;
Hast flown from the Indian land, where flowers
Perennial blush in the myrtle bowers,
To linger awhile 'mid snows that lie
On cold bleak hills 'neath a wintry sky.

The herbs are hid in the trackless field,
The pebbly brooks and the springs are sealed;
No sparkling waves by the river's brink,
Go murmuring by where the fawn would drink;
No music bursts from the leafless grove,
Not even the red-breast's song of love;
Yet thou art here, like a wanderer come
To look once more on his ancient home;
To bide for an hour—a noon-day guest,
And hie him away ere the time of rest.

Thou wilt not stay till the wild flowers blush,
Till fountains forth to the sun-light gush;
But when from the wood-crown'd hills are heard,
The streamlet's music and the voice of bird,
Thou wilt come again with thy sunny smiles,
On wings of gold from the ocean isles.
Thou lingerest not—for the chilly blast
And cold white clouds are gathering fast;
But, oh! return in the early spring,
And with thee its green and its garlands bring.

DERANGEMENT IN THE CURRENCY.—Although farmers are not so immediately and heavily affected by derangement in the circulating medium of the country as are merchants, manufacturers, and traders, yet the calamity is not less certain of reaching them, and is longer in duration. If, on account of the decline of prices, and the slow sales in produce, a farmer cannot afford to sow largely this spring, he must wait nearly two years before he will be able to avail himself of any favorable change after the present seeding time. The operations of agriculture require so much time, and the change of capital is so slow, that the farmer, of all others, should dread that unsettled policy in the government which effects the value of property. The successful prosecution of farming requires an established order of things. The profits are small, and depend on calculations and arrangements made from six months to several years before the results are expected to be realized: consequently, all kinds of "experiments," particularly on an expensive scale, are very unpopular among farmers. For eight or ten years we have been laboring to persuade them to try experiments on a limited and economical plan, but they all practically tell us that they are doing well, and that it is wisdom to let well-enough alone; but if we will take the "responsibility," and pay them for their time, expenses and losses, they say they will consent. We shall be ready to comply with this proposition when we get to Washington, and have a firm hold of Uncle's purse strings. The first "experiment" we shall then try, will be to follow out in practice Mr. Jefferson's beautiful idea—"Tear down every other house in cities, towns, and compact villages, and occupy the ground with flowers and vegetables." We shall next cut up and divide into portions, not to exceed ten acres, all those aristocratic and monopolizing farms of one, two, four, six, eight, and twelve hundred acres. On each of these sections we shall build a neat cottage, combining comfort, utility, and architectural beauty. These buildings will be for the accommodation of the surplus inhabitants of the cities and towns. We truly hope there will be no "opposition" to our undertaking, and that no delegations will be sent on to waste our precious time, and pester and vex us. Let our experiment be fully tested, and we are sanguine we shall reap more glory than has as yet ever fallen to the lot of mere man. All we ask of the people is passive patriotism for fifty years, and then we are well persuaded there will be universal satisfaction.

OBITUARY.—*John Brentnall.*—On the 17th ult. we received a business letter from Mr. Brentnall, of Goshen, N. Y. On the 28th we received one from his sons, announcing his death. Mr. Brentnall was an importer and breeder of improved English live stock. His loss will be deeply regretted by his numerous friends and acquaintances.

Hon. Jonas Platt.—This distinguished citizen, after having filled with great renown various public offices, was in 1814 appointed Judge of the Supreme Court of this state. "No bench in the Union surpassed, either in merit or in reputation, the character of the Supreme Court during the nine years that he contributed his full share of efforts to sustain and adorn it." "He was eventually compelled to abandon his profession, and retire with very moderate means, to the quiet and more healthy occupation of agricultural employment. He settled on a small farm in the town of Peru, on the shores of lake Champlain, where he resided the four last years of his life, in dignified and charming simplicity, diffusing around him the brightness of his character and the benign influence of his example." He died at the close of the last month.

GYPSUM.—The editor of the Farmer's Register says he has found gypsum very efficacious on a soil which, before it had been marled, exhibited no beneficial effects.

MANURE IN DRY SEASONS.—Dr. J. P. Beekman, of Kinderhook, in writing to the editor of the Farmer's Register, says, "There is an ameliorating and fructifying quality about the sod that imparts its powers to the grain that succeeds it, which is not discernible in the properties of the manure; and in dry seasons the effects of this last are *almost entirely lost.*" We should be pleased to learn from Dr. Beekman, whether this manure was properly fermented, or in its coarse unrotted state? It seems to us a subject of much importance to avoid this loss of manure and time.

CULTIVATION OF NATIVE GRAPE.—N. Longworth, Esq. has experimented extensively in the culture of American grapes. His opinions are, therefore, entitled to attention. We give an extract from an address recently delivered:

"I have found no foreign grape that will pay the expense of open culture in our climate. Native vines, planted on ground with no other preparation than deep ploughing, have thus far succeeded better than those on steep side-hills, where the ground was prepared with great expense. Those parts of my vineyards fully exposed to the north have often ripened their fruit better than those with a southern exposure. Some of the finest wines of France are made in a northern latitude, and on hills fully exposed to the north.

"Others are deterred from the cultivation of the vine, from an impression that great skill is necessary. The vine requires less science in its cultivation than the peach or apple tree; and the manufacture of wine is a more simple process than that of cider. Cleanliness and a careful exclusion of unripe and decayed fruit are the great requisites. Wines may be improved after they are completed, by a mixture of the strong with the weak, the dry with the sweet, the flavorless with that possessing a high flavor; but this is the province of the wine-merchant.

"Again, it is said we cannot succeed with the manufacture of wine, because the addition of sugar is necessary to our grapes to give them the requisite sweetness. I have wine of my own manufacture, now six years old, the pure juice of the grape. But in all wine countries, unless it be in those where light hard wines are made, sugar is added, or its equivalent. In Madeira, Xerxes, Oporto, various methods are resorted to. The grapes are suffered to hang till a bunch of raisins can be plucked—or a portion of the must is boiled down, till its fermenting quality is destroyed, and its saccharine nearly doubled, or a portion of the unfermented must is mixed with such a quantity of brandy as to stop the process of fermentation, and these are added to the must or wine. After the wine is perfected, from five to twelve per cent. of brandy is added. Even in the sunny clime of Italy, to enable their wine to keep without the addition of sugar, they boil the must, and the wine so made is called 'Vino Cotto.' In Germany and France, sugar is frequently added. But in all these cases the fermentation is checked before its completion, and the leaven precipitated by sulphuring and frequent racking. From experience, I am perfectly satisfied that it is immaterial whether the saccharine prineiple be in the grape or added to the must in the form of sugar.

"The reason so many have failed in the manufacture of domestic wine, is that, instead of making American wine, they have, by the process of manufacture, attempted to produce an imitation of popular foreign wines.

"The Schuylkill, Muscadell or Cape grape, the Isabella or Catawba, are the American grapes most in use for the manufacture of wine. The first by age becomes a good wine. The second will make a rich, sweet wine, by the process of manufacture necessary to accomplish this object, but it does not improve by age. From the Catawba, Major Adlum makes a rich, sweet wine. The wine which I manufacture from this grape is a light, dry wine, resembling those of the Rhine, and will successfully compete with any of them, but they are wines now for the first time coming in use among us, and command a high price.

"I have two other native grapes under cultivation, from which I have yet made only a few quarts of wine of great promise. They are also first-rate table grapes. The best wine of American manufacture that I have seen resembling Madeira, is made by a French gentleman of great intelligence, in S. Carolina, Mr. Herbemont. He sent me a sample. It is made from a grape called the Warren, or Herbemont's Madeira. I obtained this grape from him four

years since, and do not hesitate to pronounce it an American grape, common in North Carolina, and to be found as far west as Missouri. As a table grape, it is equal to many imported varieties.

"In deciding how far the grape may be cultivated with us for profit, experience is better than theory. Nine years since I bought thirty acres of very broken ground four miles from the city, for which I paid three hundred dollars. There were about fifteen acres of cleared land, and about one half tillable. On this place I put an elderly German with a small family. He was to plant and cultivate a vineyard and have one half the product. Every thing raised by him on the place was for his own use. He spoke no English; was not worth ten dollars; and possessed of no learning. The vineyard was neglected, and made a secondary object; whilst he supported his family by raising vegetables for market. At the end of seven years his vineyard was less advanced than it should have been at the end of four years. The eighth year a part of his vineyard produced one thousand seven hundred gallons of wine to the acre. This encouraged him: his garden was neglected and his attention devoted to the vineyard. This season, 1833, his share of the wine will enable him to purchase from the government five hundred acres of land; and he has already made a purchase for each of his children. He can cultivate the grape as his others have done before him, in Germany; but he can make no changes to suit the difference of our climate, and I would sooner depend upon a man of good common sense, who had no experience in its cultivation, than most of the German vinedressers. I name this, not in disparagement of a frugal industrious part of our population, but to remove an impression that foreigners only are competent to the cultivation."

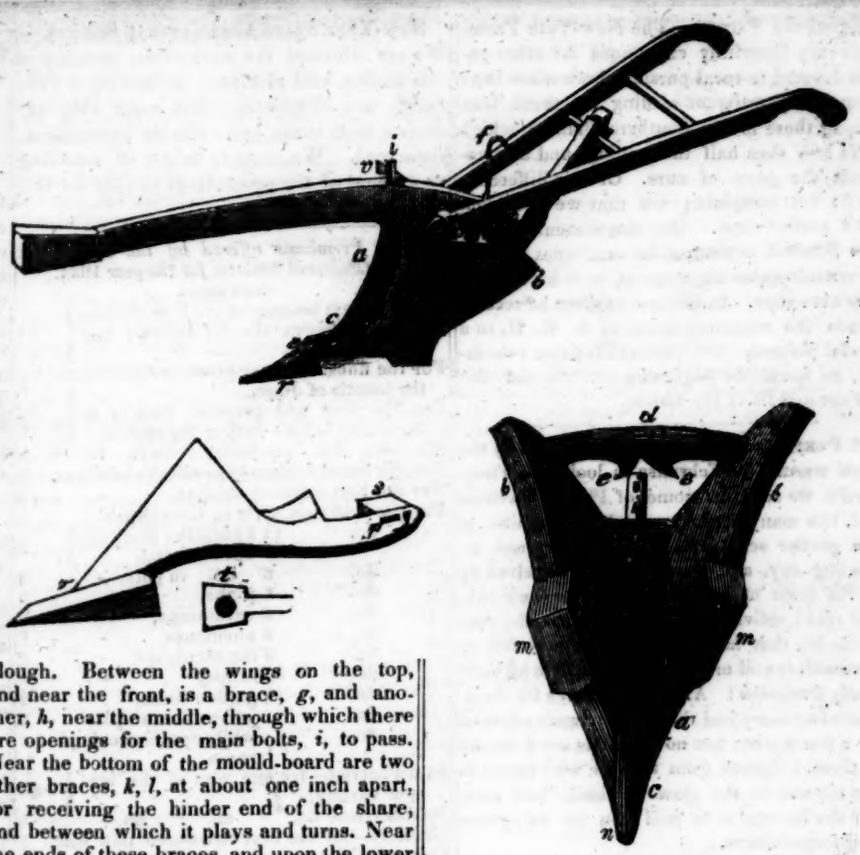
Mr. M'Cormick's plough has been favorably noticed in the southern papers, and at agricultural exhibitions. In the southern states increasing attention is given to horizontal ploughing, which prevents the soil from being washed from declivities. Fitzherbert, who wrote the middle of the sixteenth century, speaks of ploughs with a mould-board to shift from one side to the other, for side-hill ploughing. Of the practical use of this plough by farmers, and of its cost, we should like to hear from the inventor.—[Ed. N. Y. F.]

H. M'Cormick's Self-Sharpening Horizontal Plough. [Communicated by the Inventor for the Mechanics' Magazine.]

Be it known, that I, Cyrus H. M'Cormick, of Rockbridge county, and State of Virginia, have made an improvement in the useful arts, being a "self-sharpening horizontal plough," which is described as follows:

This plough, like most others, consists of the beam, handles, helve, mould-board, and share. In addition to these there is a latch-rod to make fast the mould-board and share, when changed to either side, and a main brace to support the mould-board.

The beam, handles, and helve, are similar to those employed in other ploughs. The mould-board, represented at *a* in the annexed drawings, is made double, of cast iron, curved somewhat like other mould-boards, on both sides. The wings, *b b*, are united in front part at *c*, and extend outward, making a suitable angle for turning over the earth. There is a brace, *d*, extending between the two wings, behind, supporting them firmly with projections, *e e*, on one side, for receiving the latch-rod, *f*, when changing the



plough. Between the wings on the top, and near the front, is a brace, *g*, and another, *h*, near the middle, through which there are openings for the main bolts, *i*, to pass. Near the bottom of the mould-board are two other braces, *k*, *l*, at about one inch apart, for receiving the hinder end of the share, and between which it plays and turns. Near the ends of these braces, and upon the lower side of the mould-board, are two projections, *m m*, upon which the mould-board slides alternately. These projections can either be cast solid, with the mould-board, or be made of steel or cast iron, and be rivetted on. These projections serve also to hold and support the share when turned. At the front end of the mould-board is cast on it a projection, *n*, which serves as a pivot, on which the share turns.

The share, *o*, is made of cast or wrought iron, in a triangular shape. It consists of the neck, *p*, (with or without a head,) and a slat, *q*, for a key, placed behind the braces; also, a point, *r*, either cast on the share or made separately, and fastened on it by being rivetted, or otherwise.

There is also a shoulder, or projection, *s*, by means of which and the latch-rod the share is kept in its place when changed. In the hinder end of the point is a cavity, *t*, to admit the point on the mould-board upon which and the neck the share turns.

The *main bolt*, *i*, is made of wrought iron, and passes through the beam, and the two openings in the braces of the mould-board before mentioned having a head, *u*, on the lower end, and either a screw or key, *v*, on the head above the beam.

The *latch-rod*, *f*, is a plain curved rod of wrought iron, which extends from above the beam to the neck of the share, and is moveable from one side of the beam and mould-board to the other, passing between the beam and the projections on the brace of the mould-board, and entering between the neck of the share and the wing of the mould-board, and by which the mould-board and share are screwed in the position required.

Operation.—When required to plough on a hill-side, say the declination of the hill is on the right, the right wing of the mould-board and share must stand out from the beam to the right, and the other wing of the mould-board being nearly parallel with the beam, forms the land-side, the latch-rod being put in its proper place. One furrow being made in this position, the latch-rod is taken out, and turning the plough, resting on the share, the share is turned on the point of the mould-board, to the other side, or left, and the mould-board also changes sides. The left wing projecting out to the left, the right wing forming the land-side, the latch-rod is passed between the other side of the beam and the other projection on the brace, the points entering again between the neck of the share and other wing of the mould-board, which pressing the shoulder on the share, above that on the mould-board, makes it fast. The neck of the share might be made to turn on a pivot or collar on the centre, instead of the opening between the braces. A nail or pin is driven in the helve, below the brace, to prevent the mould-board from sinking behind, or the beam from rising, to steady the plough.

The invention here claimed, and desired to be secured by letters patent, consists in the peculiar arrangement and construction of the several parts of the plough, as before described, and particularly the mode of forming the point at the end of the mould-board on which the share turns; and the two braces with the space between them, in which the neck of the share works; the brace near the centre of the mould-board; the two projections on which the mould-board slides; and the share, with the mode of turning and fastening it by the latch-rod.

Done at the city of Washington this 28th day of October, 1833.

Cyrus H. M'Cormick.

PRINT IN BINDING

EXCHANGE PAPERS.—The New-York Farmer is very cheerfully exchanged for other papers devoted to rural pursuits, even when their price and quantity of reading are much less. Among these is the Southern Planter, which gives less than half the reading, and at two-thirds the price of ours. Of this difference we do not complain; but that we so seldom get a perfect copy. Our compliments to brother Bartlett, hoping, if he continues to send us outside-quire impressions, that he will see they are entire. In his last number he recommends the communication of R. R. H. to a careful perusal. On opening his paper to comply, we found the beginning and the end, but not the middle of the article.

A PEEP INTO THORBURN'S.—Tempted by the April warmth of February to look into Thorburn's, we saw that some of Flora's loveliest had, like many of the gay and the beautiful of the gentler sex, passed their showy and attracting day, and were folding themselves up in the arms of age preparatory to their exit, and alas! oblivion. Who remembers the rose or the lily that has faded, when others full as beautiful, or still more so, come forth in all their lovely freshness? Ah! no one cares for them. Their fragrance and their beauty were admired for a few hours; but now, no one even thinks of them. Learn from this, ye who figure in gay life and in the glow of youth, how soon will the homage now paid you die away into cold forgetfulness.

Among the numerous flowers in bloom were the delicate New White Clarkia, the Euphorbia Poinsettii, named after Mr. Poinsett, our Minister to Mexico, the white Pyrus Japonica, the Camellia with its numerous varieties, the Blue Grape Hyacinth, the Salvia splendens, a large and showy Peonia Banksiæ, the Ethiopean Lilly, and numerous bulbous plants—all, as usual, in a healthy condition, and neatly and handsomely arranged.

Among the articles that struck our fancy were some spades for boys. Such implements as these we consider of great utility—serving to increase the taste of youth for rural exercises, to promote health, and to establish those habits that form the character.

SEED GARDEN.—No kind of gardening is, perhaps, more profitable than that of raising seeds. A seed garden, as well as a seed farm, should generally be on a soil inclining to be dry rather than wet. Much care, however, must be taken to have each variety true to its kind. Large quantities of seeds are imported into this country; and most of them could be raised in this country, if proper attention was given to them.

NEATNESS IN GARDENS.—Mr. Loudon states that the want of neatness and cleanliness in gardens often arises from causes which, on first consideration would seem to have a contrary effect. One of these is, that the gardener is always at home—always engaged in his garden. He becomes familiar and accustomed to the forms, appearances, and condition of the beds and plants; but if he should occasionally visit other gardens, his mind would be struck with the defects or superiority of his own, and thus be stimulated to further efforts.

NEW-YORK STATE AGRICULTURAL SOCIETY.—We are informed the anniversary meeting of this society, held at Albany on the 14th of February, was interesting—that some able addresses were made, and valuable communications read. We were in hopes of receiving an account of the proceedings in time for this number.

List of Premiums offered by the New-York Horticultural Society, for the year 1834.

FLOWERS.

For the finest bouquet of cut flowers presented between the 1st January and the 1st April,	$3
For the finest bouquet presented during the month of June,	3
For the best and greatest variety of flowering shrubs during the season,	3
For do. do. perennial flowers, do.	3
For the finest variety of seedling camellias,	3
For the best seedling dahlias,	2
For the best new sorts of Geraniums,	2
do. 12 hyacinths from the open ground,	2
do. 6 do. in pots,	2
do. 6 pinks,	2
do. 6 carnations,	2
do. 6 anemones,	2
do. 6 ranunculuses,	2
do. 12 tulips,	2
do. 12 garden roses,	2
do. polyanthus in pot,	2
do. white eyed auricula, do.	2

FRUIT.

Strawberries—for one pint of the best new variety,	$2
Raspberries—do. do. do.	2
Cherries—for the best two dozen new sort,	2
Currants—for one pint, any color, do.	2
Gooseberries—for the best dozen,	2
Aprecots—for the best half dozen,	2
Nectarines—for the best half dozen free-stones,	3
Nectarines—for the best do. clingstones,	2
Peaches—for the best half dozen early freestones,	2
Peaches—for the best half dozen late do.	2
Pears—for the best half dozen new sort,	2
Plums—for the best half dozen do.	2
Figs—for the best half dozen,	2
Grapes—the best two bunches white, (under glass)	2
Grapes—do. black, do.	2
do. for the best two bunches white raised in open air,	2
do. do. black, do.	2
do. do. any other color, do.	2
Melons—for the best pair of green fleshed,	2
For the best method of preserving fruit in its natural state,	2

VEGETABLES.

Cucumbers—for the finest brace of early frame,	$2
Peas—for one quart of the earliest, grown in open air,	2
Potatoes—for two quarts of the largest and best, forced,	2
Sea kale—for the best six heads, early,	2
Lettuce—for the two best heads	2
Rhubarb—for the earliest and best blanched	2
Cauliflowers—for the best two heads, early,	2
Cauliflowers—do. do. late	2
Cape Brocoli—do. do.	2
Cabbage—do. do. early	2
Lima beans—for the earliest two quarts in pod	2
Celery—for the best six heads	2

Additional premiums, at the discretion of the inspecting committee, will be awarded for such specimens of fruit, vegetables, or flowers, as may be deemed worthy thereof, whether produced by a member of the society or otherwise.

Special premiums will also be given for dahlias and other flowers presented at the public exhibitions of the horticultural society, of which due notice will be published hereafter.

No premiums will be awarded for fruit raised from the same tree or plant, for which the cultivator has already received premiums.

By order of the Society.

WM. R. COOKE, Secretary.

New-York, January 28, 1834.

PHYSIC OR HERB GARDENS.—Physicians inform that there are many native plants in this country that would be excellent substitutes for many of those that are imported, if they could be obtained in sufficient quantities, and properly prepared. There is scarcely an herb in repute in the country that will not command a ready sale, if well gathered, pounded, shifted, and neatly put up in papers. For aquatic herbs the soil should be moist; rather poor and dry for aromatic herbs: but for roses and similar plants, for producing leaves to be distilled, the soil should be retentive of moisture, and rich.

NATIVE GRAPES.—The following is the testimony of N. Longworth, Esq., one of the most extensive vine growers in this country:

The Catawba is superior as a wine and table grape to the Isabella, and matures its fruit better, though a less abundant bearer. We have native grapes in most of our states, could a selection be made, that would leave us little cause to regret that foreign grapes succeed so badly with us.

SOWING CLOVER SEED.—The following from the Farmers' Register may be apropos for the season:

A convenient quantity of seed should be held in an apron, one end of which is to be tied around the sower's neck, and the other end held gathered in the left hand. The finger and thumb of the left hand also holds one end of a small light board (say twelve inches long and six wide) in front of the face, and the upper end sloping outward. The sower walks at distances of four and a half or five and a half feet apart, and at every second step dips up as many seed as can be held between the tips of the thumb and two fingers of the right hand, which are thrown against the board with enough force to make them rebound and scatter well. The distribution of the seed will be very regular, and is not affected by the wind: and if the quantity of seed is found by measure to be too few or too many, the remedy can easily be applied by altering either the *dip*, or width of the row, or the length of the step of the sower. Young women, or stout boys and girls, are the best to perform this work—and as no skill, and but little care is wanting, as many as may be desired may be employed at once, and the sowing finished in a short time.

Now for regulating the width of rows, and covering the seed.

Many farmers, much more skilled and experienced than I am, trust their clover seed on the earth without any process to cover them: but I have never made the trial, that the seed were not found to be unequally distributed—and often not half would live. Wheat land, on which clover seed are usually sown, by the proper time has become settled, and with a sleek surface, though continually varied by inequalities. As the seed are thrown, they slide or rebound from the little elevations, and are collected in the depressions of the surface. Then ten or twenty seeds will often be found in a spot of a few square inches, and as many square feet adjoining may be without any. If a light roller is used to cover seed so sown, its pressure will generally be made only in the spots where few or no seed remain, as the hollows will seldom be touched by it. I suppose the land to have been ploughed level, or in wide beds. If in narrow and rounded ridges, the objections would be still more increased.

The course that I prefer is this. When the surface of a sufficient part of the wheat field is

dry enough for a horse to walk on without injury, and at any time from the middle of January to the 10th of March, (but preferring the earlier time,) a light square harrow having 20 teeth, and sweeping about five feet, and drawn by one horse, is started *ahead* of each sower. The teeth generally cut very superficially, even on the elevated parts, and do not touch the depressed surface, and these numerous scratches, with the earth thrown up, serve to furnish a proper receptacle for each seed at the precise spot where it falls, or certainly within a few inches distance. The higher spots will thus be as well supplied as the depressions, and the newly loosened mould will not only retain, but will cover the seed. A wooden roller however following, will certainly and effectually cover them. The row swept by the harrow guides the course of the sower, who walks after it, and prevents any difficulty in preserving the proper distance. But few wheat plants are drawn up by the harrows, and no perceptible injury is ever caused by their being thus used.

Those persons who are willing to dispense with the use of the harrow may find some difficulty in preserving equality of breadth in the casts. The corn rows (if that crop preceded the wheat) will generally remain plain enough to guide the sower. When we sow on snow, the tracks of the sowers serve as a sufficient guide both as to course and distance; and in this manner the seed are more equally distributed, and better covered by the after thawing of the earth, than if thrown on the earth without using the harrow. When seed in the chaff are used, (as they should be after the farm will yield them,) there is a still more decided advantage in sowing on snow, as in this case the regular distribution is better secured. R. N.

Anti-Temperance Farmers.—The following paragraph, from a Philadelphia paper, shows the importance of all that information which is requisite to enable one to judge for himself—to save himself from being the dupe of designing men. We are sorry to see farmers unitedly contending against their own interest, and that of the community.

We regret to add, that six anti-temperance societies have lately been formed in one county of Pennsylvania, which embrace 1700 members, many of whom are wealthy German farmers. They have been deluded by a few unprincipled men, who make them think that the Temperance Societies are so many Presbyterian contrivances to destroy the grain market, and unite church and state.

New-York in Liberia.—It would seem, to all human probability, that the prevalence of the temperance principle in this country is destined to diffuse much happiness in Africa.

Office of the Colonization Society,
New-York, 19th Feb. 1834.

The Colonization Society of the city of New-York are taking active and energetic measures for the immediate establishment of a temperance and Agricultural settlement in Liberia, to bear the above name.

They have already an exploring agent in Africa, the Rev. Rufus Spaulding, who will add to the Society all the services which his duties as a missionary will permit. The Board have also appointed Mr. Israel W. Searle assistant agent to Mr. Spaulding. Mr. Searle is expected to embark for the colony about the middle of May, with 12 or 15 well selected male emigrants, to act as pioneers in laying out the settlement, building houses, clearing land, planting ground, and making other necessary arrangements for the reception of a much larger company of emigrants in the ensuing autumn.

Mr. Searle is a young gentleman of liberal education, and, at the same time, of active, industrious habits, accustomed to agricultural pursuits, and in every respect deemed well qualified for the high and important trust confided to him.

The undersigned is about to resign his agency in this city, in the course of a few days, to accept of an agency from the parent Society for the Western States. Applications, therefore, in behalf of emigrants who wish to form a part of the pioneer expedition, will, until another agent is appointed, be directed either to Israel W. Searle, or to Wm. L. Stone, Chairman of the Executive Committee, or John W. Mulligan, Corresponding Secretary of the Society. R. S. Finley.

Soil and Productions of Cape Palmas, in Africa.—The Maryland Colonization Society proposes to form a settlement of free colored people from the United States, in the vicinity of Cape Palmas. The colony is to be called Maryland in Liberia. The soil and productions are thus described by Dr. James Hall, the appointed Governor:

The soil in this vicinity, like that on St. Paul's river, is the strongest and most inexhaustible I have ever seen either in the West Indies or on the continent of America, and will most abundantly produce any tropical grain or fruit with which you may treat it. Net cattle, sheep, goats, hogs and wild animals, tame and wild fowls, are offered daily to vessels in trade, at a small price, and of course must exist abundantly both on the coast and in the interior. No part of the world can produce a greater variety of fish or of a better quality. The oysters are immensely large, and of a very fine flavor—two of the largest would satisfy any gourmand.

To Cure the Black or Scalt Tongue.—It is stated in the Hallowell Free Press that the bark of the Juniper or Hacknatack, boiled in water, makes a certain cure for this disease. The tongue is to be washed with it several times a day.

Dutch Churns.—When the churning process was going on, I have observed the outside of the churn wrapped over with cloth, which I was told was for the purpose of keeping the outside clean. The Dutch have various ways of working the churn. At the large dairies it is generally with a horse; this I observed near Delft, at Ter Leide, near Leyden, and near Leuwarden, in Friesland; at others they are churned by the hand, by turning a large fly-wheel,

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(figure 1.) At Almenaar, near Harlingen, I saw a churn made to go by the feet, the weight of the body being moved alternately from one side to the other, on a platform fixed on a pivot (fig-

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ure 2); to the one end of the platform a stalk being attached, which moved the churn-handle attached to another pivot. I observed at a farm near Gouda, that the churn was made to work from the ceiling in a very easy way; a piece of wood in the shape of an obtuse angle, was attached at the elbow to a pivot in one of the beams of the ceiling; the churn-stick was attached to the one end, and it was worked up and down by the hand at the other end, (figure 3.)

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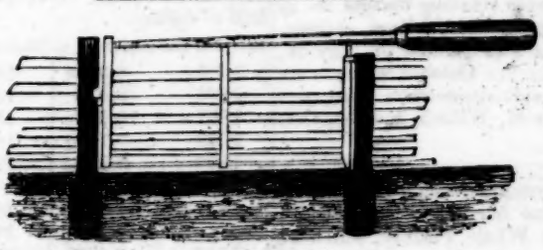
And in North Holland they churn by means of dogs in wheels, in a similar way to the turnspits.—[Quarterly Journal of Agriculture.]



Balance Gate. By D. Lapham. [From the Farmers' Reporter.]

Sir,—If the following improvement in the construction of farm gates should be deemed of sufficient value to be of use to the farmers of this country, you are requested to make it known to them through the medium of your valuable paper.

This gate consists of two main posts, set firmly in the ground at the proper distance asunder, in the line of the fence; that part which is above the ground is made about 12 inches square, and the lower part is left round, forming a shoulder at the surface of the ground. These posts have mortices on the exterior sides to receive the rails of the fence. The gate itself is formed of three posts of scantling, 4 by 5 inches square, into which are framed about six strips of 1¼ inch boards, 4 inches wide, so as to form a rectangular gate of the length and height required. Upon the top of these posts rests a beam, which extends back far enough just to balance the gate. The heel-post, upon which the gate turns, rests upon the shoulder of the main post, at the surface of the ground, where there is a depression made to receive it, and it is secured at the top by a staple, or hoop of iron, passing around it, (the upper part of the post being rounded for that purpose,) and is fastened into the main post. The latch or fastening is formed by making one of the slats pass through the front post in a long mortice; and the slat being cut in two at the middle post, and secured by a pin, the piece can be raised or lowered in such a manner as to latch and unlatch the gate. The notch is cut out of the main post, to receive the latch in such a manner as to allow the gate to open either way. This gate is much neater, more substantial, and is less liable to get out of repair, than those formerly in use. There are two gates of this description on the farm where my father resides, in the north part of Champaign county, and he intends soon to have one to each of his fields. D. Lapham.

Cincinnati, Ohio, Dec. 19, 1833.

PRINT IN BINDING

APPLICATION OF STEAM TO AGRICULTURE.—We hope the day will never come when there shall be so much ignorance and prejudice in this country that our farmers will be in that condition mentioned in the last sentence of the following paragraph, taken from the London Gardener's Magazine.

The application of steam to agricultural purposes is said to have lately called forth a powerful and effective engine in France; and it has at the same time produced a steam digging machine in England. This engine, an imperfect model of which we saw three years ago, has lately been so far improved that a patent has been taken out for it by Mr. Philips. It will be found figured and described in Gordon's Journal of Locomotion, for February, 1833. We have lately seen the model of another machine, which may be applied to the same purpose, and, as it appears to us, with much greater chance of success. At one operation it could be made to plough, pulverize, roll, sow, and harrow, a breadth of 10 feet or 12 feet, at the rate of 5 or 6 miles, and consequently between 7 and 8 acres per hour. The machine might, no doubt, be impelled at double that rate; but it is questionable whether at such a velocity the work of sowing could be properly performed. The present, however, is not the time for bringing out such a machine in England, where the farmers, in most districts, are obliged to take down and conceal the wheels of their threshing machines, if these have not been already burned by their laborers.

CHINESE ROSES may be propagated from single buds, as grape vines are propagated. The single bud, with a quarter of an inch of the stem, both above and below it, is placed just under the soil, under a bell-glass; the leafstalks and leaves standing upright as in a cutting. A single bud of Rosa semperflorens sanguinea was planted on July 26, and on September 8. October 9 it was six inches high, and side shoots were being produced.—[Charles M. Willich, London, Oct. 3, 1833.]

AMERICAN FISHERIES.—In a recent number, we gave some interesting facts relative to the American Whale Fishery, which we are pleased to learn has been well received and extensively copied. The Whale Fishery is a very important part of our national industry, but the Cod and Herring departments of our fisheries are by no means of small consequence. As early as 1504, vessels from Biscay, Bretagne, and Normandy, were employed in the Cod Fishery on the coasts of Newfoundland. In 1507, the French, Spanish, and Portuguese, had vessels in this lucrative trade. In 1615, the number of British increased to 250; these of other nations to 400. The pilgrim fathers of New-England were obliged to draw their first support from the sea, and then began from necessity, and was continued for profit. Previously to the American Revolution, the Cod Fishers of Massachusetts employed 28,000 tons of shipping and 4000 seamen. The annual value of their industry and enterprise was about 1,000,000 dollars.

The absurd restrictions by which Lord North attempted to deprive the Colonies of their fishing rights are well known, as also the indignant exclamation of Burke against such arbitrary conduct. The struggle which followed was, of course, injurious to this, as to all other branches of national industry, but with the peace it again revived. In 1790, Massachusetts made a representation to Congress, asking some encouragement, in the form of bounty on exported fish, which was granted, and the trade rapidly increasing in consequence of this stimulus, in 1807, 71,000 tons of shipping were employed in the Cod Fishery alone, and the exports for that and the four preceding years averaged 3,000,000 dollars.

The disputes with Great Britain respecting the orders in council gave a new check to this trade, which was, however, only temporary, for the very year after the peace was concluded, we find 68,000 tons, employing 10,000 fishermen, on the ocean; since then there has been a constant increase, so that in 1831, in the Barnstaple district alone, licenses were granted to 188 vessels, averaging 58 to 100 tons each, manned by about 1000 men and boys, the gross proceeds of which fishery were estimated at 319,000. The quantity of Cod thus annually destroyed is immense, but it is more than counterbalanced by their powers of reproduction, the roes of a single female being calculated to contain more than 9,000,000 eggs.

Mackerel, from the immense numbers which are annually taken, off Massachusetts, furnish a most important part of American trade, thousands and hundreds of thousands of barrels being annually sent to the West Indies. In 1803, the Legislature of Massachusetts passed a law for an inspection of fish. The following table will exhibit the surprising alterations, and amazing extent of this important business. The number of vessels employed in 1831 did not fall short of 400; number of men, 4000. The probable value of the proceeds of the Mackerel Fishery, for that year, exceeded a million and a half of dollars.

In 1803 the number of barrels was			8,079½
1805	8,936½	1818	47,210
1806	8,473	1819	105,433
1807	10,904½	1820	236,243
1808	7,738½	1821	111,009½
1809	8,865½	1822	160,294½
1810	13,058½	1823	145,006
1811*	19,632	1824	191,650½
1812	5,018½	1825	254,381½
1813	3,822½	1826	158,740½
1814	1,349	1827	196,310
1815	12,16,349½	1828	237,324½
1816	30,021	1829	225,882
1817	37,982	1830	309,462

Herrings are also an important article: they are certainly migratory, though their migrations may have been overruled. Their taking, it is said, the regular circuit of the sea, gives interest to their history: one immense army leave the Polar regions in the spring, equalling in extent the whole surface of Great Britain. As they advance, squadrons begin to separate from the main body. By September, England, Ireland, and Scotland are surrounded by them. From these parts, the forces move South-West, across the Atlantic, and make their appearance on the coast of Georgia about the last of January; detachments then begin to move eastward, till ultimately the whole coast of North America is lined with them, furnishing food for great numbers.—[Maryland P. Cou't.]

* The first year after the division of the state from Maine.

CULTURE OF SILK.—Wednesday, in the House, the bill to encourage the cultivation of Mulberry Trees and the production of Silk was passed to a third reading. This bill gives a bounty of two dollars for every hundred of trees set out at the rate of 600 to the acre, and one dollar for every pound of domestic reeled silk. The consideration of the above bill was attended by a very interesting debate, in which the following gentlemen took part: Messrs. Gray, Moseley, Rockwell, Eustis, Thayer, Chapman, Forward, M'Kay, Lincoln, and Kinsman. Mr. Moseley communicated much interesting information. He stated that the mulberry tree would grow in any country between 20 and 50 degrees of latitude—that sandy and gravelly soil suited it best—that the required labor could be performed by children—and that 600 lbs. of silk, worth $3 per lb., could be obtained from the worms fed on the trees which could be raised on one acre of ground.

Mr. Chapman, of Greenfield, who opposed the bill, made some judicious remarks as to such articles as are ornamental, and such as are useful. But the question was not whether our people had better wear silk, but whether, if they will wear it, it is best that a good part of it should be produced in this country, or that nearly the whole should be imported. He wished our farmers' wives and daughters should be able to procure silks at 50 cents a yard, rather than at a dollar. Domestic competition may effect this. But, if we do not choose to wear silk, we may produce it to export.—[N. E. Farmer.]

SOIL AND AGRICULTURE IN OHIO.—The bottom lands are low and subject to occasional floodings, but are of a very rich soil. Pickaway county is nearly square in outline, being twenty-two by twenty-one miles in extent, and contains sixteen thousand inhabitants. The Scioto river passes through it from N. to S. dividing it into two nearly equal portions. The lands on the east side are of a very excellent quality, and produce all the different kinds of grain in the most luxuriant abundance. The county contains four varieties of soils, wood lands, barrens, plains and prairies. On suitable soils, from forty to forty-five bushels of wheat are produced, and in early days, before the rich prairies were reduced by successive crops, one hundred bushels of corn per acre were not uncommon. By the rich farmers, cultivation is carried on in a style and grandeur proportionate to the exuberance of the crops. Fields of one hundred acres of wheat, or of corn, are often seen, and frequently they are extended to three or four hundred. A few years since, when wheat commanded a dollar per bushel, a rich farmer on the Pickaway plains cultivated one thousand acres in a single field, which, when undulating under a gentle breeze, might not unaptly be called an ocean of verdure. In all the counties bordering on the canal, there has, since it was opened, been an increase in the value of wheat of from ten to fifteen cents per bushel, and so of many other articles; the canal giving them the advantage of the New-York markets, whereas, before, they had only that of the Mississippi.—[Silliman's Journal.]

DOMESTIC SILK HANDKERCHIEFS, the product of the native mulberry, have been manufactured in Dayton, Ohio, which are said to exceed the imported ones in durability.

AGRICULTURAL STATISTICS OF GREAT BRITAIN.—There are some facts in the following, which rather surprise us, particularly the decrease in agricultural productions. Our own countrymen may learn some useful lessons on the danger of tampering with public measures. Mr. Hawkins in the Quarterly Journal observes,—

I subjoin a table showing, for the four decennial periods at which the census has been taken, the number of the people to be fed—the number of families employed in raising food for them—and the quantity of wheat imported on an average of the five preceding years,—the figures in the table having reference to England and Wales only.

	Population.	Families chiefly employed in Agriculture.	Average quarters of Wheat imported in the five years end'g 1st. Jan.
In 1801,	9,168,000		(3)2,000
1811,	10,502,000	770,199	683,000
1821,	12,218,000	847,957	768,000
1831,	13,894,000	834,543	1,542,000

From which it appears that we are outgrowing our means of subsistence, derived from the soil as at present cultivated.

Comparing 1821 with 1831, it appears that the number of families employed in agriculture has been so far from keeping pace with the number to be fed, that it has positively diminished.

If the hands employed in cultivating the soil in 1821 had been capable (as they were not) of maintaining the population of that period, and if the hands now so employed be reckoned equally productive, we should have about 1,800,000, or between one-sixth and one-seventh of the population, dependent on foreign supply; because, speaking in round numbers, as 847,000 (the number of families then employed in agriculture), is to 12,200,000 (the number of people then existing), so is 834,000 (the number of families now employed in agriculture), to 12,100,000, which is less by 1,800,000 than the people now existing, and who must therefore live on food imported.

The Agricultural Committee of the last session of Parliament have reported, that they are satisfied by the strongest concurrent testimony from different parts of Great Britain, that the occupiers of the inferior soils, especially of heavy clay land, have of late expended less capital and labor in their cultivation, and that this neglect has caused a diminution in the gross amount of produce; and that the productive powers of those inferior soils have been impaired; and that in some cases their cultivation has been entirely abandoned.

Mr. Jacob states in his evidence (which the Committee have adopted and embodied in their Report), that there is a lessening in the stocks of corn in the hands of all the farmers and corn dealers; that in 1816, when the harvest was so deficient, we had six months consumption on hand; that since 1829, we have never had at harvest time so much as one month's consumption on hand; and that if the harvest of 1816 should come over again, the deficiency could not be supplied from the whole world; and that we are about four weeks in the year deficient in our growth upon the average amounts.

And it must be observed, that this is not the unsupported opinion of Mr. Jacob, but the committee introduce it as part of their report, and add that his general view is confirmed by the local experience of occupying farmers throughout England.

Mr. Jacob states, moreover, that in 1828, when the Duke of Wellington was minister, he was very much alarmed respecting the harvest, and desired Mr. Jacob to obtain for him information throughout the kingdom; that he has *no possible means of judging whether the home growth is increasing or diminishing on an average of years*; and that, excepting the returns of the averages under the Act of Parliament, there is no information collected by the Board of Trade relative to the agriculture of the country.

This is the present state of things, and it would be a very dangerous one, even if our population were stationary; but when that element is taken into account, the danger becomes infinitely greater. We are increasing in number at about the rate of 15 per cent. in ten years, whilst the produce of our soil appears to be getting less. In 1841, we shall have about 2,000,000 more people than we had in 1831, which, according to the present average, would require that 4,000,000 acres of fresh land should be brought into cultivation; whereas the Committee informs us, that lands are thrown out of cultivation every year, and that the productiveness of the lands still cultivated is less than it was.

It seems from the Committee's Report that we now grow enough for eleven months' consumption only; but it is perfectly plain that the same quantity of corn which will keep 14,000,000 people for eleven months, will keep 16,000,000, the probable number in 1841, for only nine months and three weeks.

[The writer recommends a plan to be adopted by government, by which the number of acres cultivated and uncultivated, and the produce of every kind of grain, should be known, on every farm and in every parish.]

It uniformly happens, that many beneficial consequences result from the acquisition of sound knowledge, which nobody can foresee; and there is no reason to think that a knowledge of statistics will offer any exception to the rule. The few practical inferences which have occurred to me are offered, therefore, as a sample, and not as a catalogue, of the advantages to arise from the possession of such returns.

The Committee give it as their opinion, that steadiness of price is the great object never again to be overlooked; and they make it a great merit in the present corn laws, that they have produced a steadiness in the price of corn, of which there has been rarely, if ever, an experience in any former period of equal duration; and yet,

In 1829, the price of wheat per quarter was, on the 2d January,	£3	15	11
On 30th October,	2	15	4
Variation within ten months,	£1	0	7
In 1830, the price of wheat per quarter, was, on the 1st January,	£2	15	5
On 30th July,	3	14	11
Variation within seven months,	£0	19	6
In 1831, the price of wheat, per quarter, was, on 18th February,	£3	15	11
On 21st October,	2	19	2
Variation within eight months,	£0	15	11

Under circumstances, therefore, the most favorable to steadiness of price, it has fluctuated very materially. That fluctuation has arisen partly from the quantity having been variable, and partly from its having been unknown; but the knowledge to be acquired from these returns would reduce both these causes of fluctuation. It would tend to produce a *uniformity of supply*, by exhibiting the quantity grown in the two or three preceding years; and by thus giving farmers the means of judging whether the price was likely to rise or fall in the ensuing year, would enable them to sow more or less, according as the demand was likely to be greater or less than the average; and a steady price at home would certainly produce a steady supply from abroad; whereas at present, the home as well as the foreign growers have no means of proportioning the supply to the demand; and the supply (were it greater or less) being known immediately after harvest, the price would at once fix itself for the whole season. Capitalists and dealers would be ready to buy whenever the price got lower than the average of the season, and to sell when it got higher. Between different seasons, therefore, and also between different parts of the same season, it would tend strongly towards producing steadiness of price. The trouble taken by each individual farmer in making his returns, would be richly compensated by the additional security given to his dealings. To the public in general the information thus obtained would be clear gain.

Steam-power and Railway cammunication seem to be on the point of general adoption; and it would be interesting and instructive to mark their effects, particularly the gradual withdrawal of land from producing food for horses, and employing it in the immediate service of man.

Many other points of great interest would be elucidated. We should be able to observe the gradual spreading of new crops or modes of cultivation—the alterations in taste or diet—the change from beer to tea and coffee—from bread to potatoes—from barley or oaten to wheaten flour—the quantity of meat consumed. Many of these and other variations now perhaps escape attention altogether, and with them their causes and consequences.

[From another communication in the same Journal we make the following extract.]

It was with great regret that I observed in the evidence given before the Committee of the House of Commons on the state of agriculture, that there is now not a sufficiency of corn grown in the United Kingdom for the consumption of its inhabitants; and with still greater regret, that this deficiency arises not only from a deterioration in the fertility of the land in cultivation, but also from part of the inferior land having been thrown out of cultivation altogether. From my own observation, I should be inclined to define the deficiency regretted to England. There has no land been thrown out of cultivation in Scotland; and though the produce of the greatest quantity of land which bore the highest rent during the war may be lessened on account of a stricter economy in its management, yet I feel confident that the inferior soils produce more than they did, by being retained in cultivation, and manured during the fattening of sheep. In Ireland there is an evident annual increase of all kinds of grain; and the gradual improvement in their quality evinces more and more the vast importance of the Irish supplies. The evidence also states

that wheat is now raised in England in preference to the other species of corn, and that every advantage is taken of the land to cause it to grow wheat. This statement is evidently made by the witnesses to show the needy condition of the farmers of England.

The low price of wheat induces the day laborers in Scotland to eat wheaten for oaten bread; and as it may be bought ready for consumption, it is consumed without the intervening expense of fuel to the laborer. There is, therefore, a greater demand for wheat, and less for oats, than there was. The adoption of railway communication through the country will thin the ranks of horses, and their depopulation will naturally lessen the demand for oats, and more ground will thus be left to be occupied by wheat.

[The Editor, in his Quarterly Agricultural Report, gives a summary of the Parliamentary Report. We make an extract.]

The evidence, which occupies 700 folio pages, proves these melancholy facts:—That the land is worse cultivated in most counties of England now, and especially these last four years, than it was during the war, when the price of corn was high; that less labor is bestowed on all kinds of land than formerly, and particularly on the inferior classes of soils; that the produce of all kinds of soils has decreased, especially on the inferior soils; that, in consequence, less corn remains in the hands of farmers at all times of the year than formerly; that the whole expenses of cultivation, including rent, are not much less than they were during the war, though the price of corn has fallen 50 per cent. since then; that rents have been reduced about 25 per cent.; but the reduction of rent has given no relief to the farmer, as the poor rates have greatly increased; that the farmers are obliged to pay laborers whether they employ them or no; that, in consequence of these circumstances, farmers have lost, and are losing, part of their capital every year; that farmers, in many parts of England, are now obliged to work, when they used to employ laborers; that they allow the farm buildings to fall down rather than be at the expense of repairing them; that they give up one farm, and take another, from year to year, in the hopes of improving their condition; that they will not now enter into new leases for farms, as corn bears an uncertain value in the markets; that this system of shifting from farm to farm has thrown much of the inferior land out of cultivation altogether, as they will only work the best lands. Such is the present lamentable condition of the tenantry in England. In regard to the yeomen, the small proprietors, the evidence states—that they have continued to cultivate their own land, till the mortgages upon them have exceeded their value: that, in consequence, many of these small properties have passed into the hands of large proprietors; that those yeomen who have some income left, now let their properties to farmers rather than encounter the risks of cultivation; that many yeomen even work their own land, whereas formerly they employed laborers for that purpose; that their condition in living has been very much reduced, even more so than that of the small farmers; that yeomen and farmers will suffer every privation, even distraint, rather than relinquish their profession; that the great cause of the despondency of landholders in England arises from the uncertainty in the value of corn by the continual tampering with the corn laws.

The evidence proves that the condition of the laborers who are in constant employment is much better than that of their employers. All the necessaries of life are within their reach, either of food or clothing, and they can command many of the comforts if they choose. The unemployed laborers, on the other hand, are in a miserable condition. Their bare wants are obliged to be supplied by the sinking farmers, through the means of the increasing poor-rates; but, what is worse, their moral habits have been much deteriorated by idleness. The beer shops—according to the evidence given before the committee of the House of Commons on the beer shops—are the common rendezvous of these idle laborers. There they quarrel among themselves, and plot and hatch every species of mischief against others. There those poor farmers who will not, because they cannot afford to, employ them, are marked out as the victims of incendiarism. There is no fact more completely established by the evidence than this—that there are not more laborers in England than could be beneficially employed in the cultivation of the soil, provided the farmers could afford to employ them. This single established fact is quite sufficient to demolish the whole Malthusian theory of the possibility of the population increasing beyond the means of subsistence. It is possible, however, by deteriorated husbandry, to diminish the supply of subsistence below the wants of the population. This, we fear, is the present state of England.

[American farmers may take a lesson from the following; and may learn to keep up the relative influence of agriculture in our legislatures, by educating those sons who hold the plough:]

What the issue of the discussion may be, we dare not predict, for we have now no fixed principle from which to draw a safe conclusion in regard to the proceedings of the house; and we confess we have very little confidence to hope for a favorable issue to the agriculturists, for the manufacturing interest evidently possesses a preponderating influence over the agricultural in the house. In fact, the agricultural interest is now quite at the mercy of the manufacturing.

To obtain large Heads on Roses.—In the Horticultural Register we find a method described to obtain large heads on standard roses by inarching in one season.

So soon as the plants indicate the circulation of sap, I begin to take off the head of the stock at the proposed height, bending it so that the plant designed to form the head is brought close to the top of the stock. I pare from the stem two or three inches of the bark, with a portion of the wood, at the most convenient part for forming the junction, after which the stock is neatly made to correspond, and in such a manner that the part where the union is intended to take place is very little increased in size. Tonguing should be avoided, since it offers no advantage, and often serves to weaken the union. They should be bound together with tape or good matting, and covered with a little moss, which should be kept damp. Should the stock be very tall, or weakly, the union of the parts would be strengthened and accelerated by making a small slit in the stock, and causing it to dip in the ground, or in a pot of earth placed for the purpose. The slit will heal, and throw out roots, which will support the head considerably; and after the head and stock are united, they may be pared off without the place being seen or the least injury being done.

Management of Bees in Cashmere.—Those who take an interest in the rearing of bees will not be deterred from reading this article on account of its length.

Every farmer in Cashmere has several beehives in his house, and in some houses I have counted as many as ten. A provision is made for these in building the house, by leaving appropriate cavities in the wall, and which somewhat differ in size, but agree in their general form, each being cylindrical, and extending quite through the wall. The tube thus formed is lined by a plastering of clay mortar, about an inch in thickness, and the mortar is worked up with the chaff or husk of rice, or the down of thistles, which latter is employed for clay mortar in general, being the first application of this substance to the use of man I have yet witnessed. The dimensions of a hive are, on an average, about fourteen inches in diameter, and when closed at both ends, about twenty or twenty-two inches in length. The end of the cylinder nearest the apartment is closed by a round plaster of red pottery ware, a little convex in the middle, but with the edges made flush with the wall by a luting of clay mortar, and the other extremity is shut by a similar disk, having a circular hole about a third of an inch in diameter in the centre. It does not appear that there is any particular rule for the height of these hives from the ground, as they are sometimes confined to the walls of the lower basement story, generally appropriated to cattle in the farm-houses of Cashmere; others are inserted into those of the first floor, and are frequently in both situations in the same house, as well as the walls of its outbuildings. So great difference exists betwixt the practice ordinarily pursued in Cashmere and in Europe, in respect to hiving new swarms when the honey is taken, that it deserves imitation. Although the season for taking the honey had passed when I visited Cashmere, in the beginning of November, the cottagers indulged my wish of seeing the process by which this was effected, but with little injury to the bees and with perfect safety to the individuals concerned in its management, and which was as follows:—Having in readiness a wisp of dry straw, and a small quantity of burning charcoal in an earthen dish, the master of the house, with a few strokes of the point of the sickle, disengaged the inner plaster of the hive, bringing into view the combs suspended from the roof of the hive, and almost wholly covered with bees, none of which, however, offered to resent the aggression, or to enter the room. Having placed the straw upon the charcoal, and holding the dish close to the mouth of the hive, he blew the smoke strongly against the combs, but removed the dish the instant the straw took fire, to prevent it burning the bees, and quenched the flame before he employed it again. Almost stifled by the smoke, the bees hurried out of the outer door with such rapidity, that the hive was cleared of its inhabitants within a few minutes, when the farmer, introducing the sickle, cut down the combs nearest to him, which were secured into a dish previously slidden underneath them, and left undisturbed about one-third of the combs, which were almost close to the outer door. He then re-placed the inner plaster, and brushing off hastily a few bees that clung to the combs, though apparently in a state of stupefaction, threw them out of the house. Observing many other bees lying motionless on the floor of the hive, I inquired whether they were dead or only stupified, and was answered that they would recover; preparations for continuing my journey at a very early hour on the following morning, having unluckily prevented my examining the spot where they had been thrown out, until poultry had for some time been feeding near it. The expelled bees returned as soon as the cavity was freed from smoke, without stinging a single individual, and the whole business was completed in less than ten minutes, without, as was asserted, any perceptible loss. The honey was light-colored, and of a taste as pure and sweet as that of Narbonne. It possessed less of the cloying quality generally attending this substance, than any other I recollect to have met with; nor could I learn that the farmer had any suspicion of its ever being intoxicating or poisonous, as in the case occasionally with that made by the Bhoura (*Apis irritabilis*,) or large wild bee in the northern mountains of Gurwhal, from feeding, as it is reported, on the flower of the monkhood. I was directed more particularly to inquire upon this subject, by having observed this plant in flower in the valley of Bunga, a few miles to the

eastward of the bee district, and think probable that it extends to these mountains. The peasantry of Cashmere are unacquainted with the employment of honey as the basis of a fermented liquor, but eat it raw or mixed with articles of common food, whilst the most wealthy substitute it for sugar in preserving fruits. It is customary to take the hive every year; about the end of September or beginning of October is found the best season for this operation, a little time still remaining for the bees to add to the portion left for their support during five months. This amounts to about one-third of the whole produce, and would appear to suffice, as swarms seldom die, and the Cashmeres substitute no other article of food. It is stated that an old swarm yields more honey than a young one, and that families seldom die except of old age. I was informed that it was no uncommon circumstance to preserve the same community for ten or even fifteen years; and some instances were quoted of a family having been retained for twenty years; but this was held to be a very rare occurrence. In consequence of the bees being thus literally domesticated, they acquire a mildness of conduct far more decided than those of Europe; and it is possible that the confidence thus gained, subduing their natural irascibility, may generate an increase of industry, or at least an increase of produce in relation to the number and size of the individuals of each community. It is also clear, that the situation of the hive keeps many of the natural enemies of the bees at a distance. The bee of Cashmere is a little smaller than that of Europe, though a little larger than the domesticated bee of Kumavon and of Gurwhal. The Bhoúra, the rock bee of Gurwhal, or the bee of the southern mountains, is, on the other hand, greatly larger than the domesticated bee of Europe, and greatly exceeds it also in the number of individuals in each community, and in the size and weight of its combs. But its honey is sometimes contaminated by an intoxicating quality, and the temper of the insect is so irritable, as to be brought into a dangerous state of activity by a slight show of aggression. The former quality is suspected, upon probable grounds, to be caused by the secretion of the aconite eaten by the bee, and its irritability of disposition to be owing partly to the exposed situation of the combs suspended from the lower surface of a ledge of rock, and partly to the occasional attempts of bears to carry them off. But these detractions from the merits of this bee are merely the result of localities; and under due precautions, it is presumed its irascibility might be so far subdued as to render it just as safe an inhabitant of a wall-hive as the smaller variety of bee. In a portion of the Paujab, near the hills, this bee is also met with; and I have seen the under surface of the principal branches of a large Peepul tree studded with so many colonies, individually of such great strength as to deter the neighboring peasantry from attempting to deprive them of their stores, notwithstanding it was conjectured that there were several hundred weight of combs on the tree. The largest of these assemblages of combs—the probable accumulation of many seasons—was of such a size as I think it not prudent to cite; but from the specimens I have seen of the produce of this bee, I conceive their domestication, if introduced into Europe, would prove a most valuable acquisition to this branch of farming, although I must confess myself unable to devise any safe and easy plan for transporting such a colony.—[Mr. William Moorcroft in the Journal of the Royal Geographical Society.]

Italian Rye Grass.—In the Transactions of the Highland Society, we find an article on this subject, by Mr. Charles Lawson:

This plant is said to be distinguished from the common rye grass (Lolium perenne,) by its larger leaves, by its being of a deeper green, and by the greater height to which it grows. It is usually sown in autumn, as is the general practice with grass seeds in the south of Europe. After the field is harrowed, it is sown at the rate of from 16 to 18 lbs. per acre, and the seed rolled in. In the following autumn, the turf is covered like an old meadow, and the crop of the following year is more than double. It may be also sown in spring. If it be sown with clover or lucerne, its growth is so rapid, that it will quickly choke them. It is eaten greedily by cattle, whether green or dry, and yields fifty per cent. of hay.—[Bulletin des Sciences Agricoles.]

Manuring in Drills.—A friend of mine, who I hope is now better employed, who was a man of general science and a practical and scientific farmer, exerted himself for thirty years to improve a poor sandy farm—by the method of manuring which I am about to mention; he effected more for it in the five years which preceded his death, than had been accomplished in the other five and twenty. From the shore of a saltwater sound to which the farm was contiguous, he littered his farm with sea ware. In the fall, he laid off with a plough the field which he intended for the next year's crop of corn, in trenches seven feet apart, twelve inches in width and six in depth. The plough traversed the same furrow until the trench was sufficiently wide and deep—its sides were made by the bar of the plough. Those trenches were then filled with sea ware from the farm yard, and stable manure; the latter placed in the bottom of the trench, and making from a tenth to a sixteenth part of the combination: the trenches were then covered with the plough, and upon the ridges thus formed, the crop of corn was drilled the succeeding spring. After the laying by of the corn crop, the field had a year of rest, after which the intervals between the corn rows were treated and used as the rows had been. The advantages of that manner of manuring are manifest. Almost all the fertilizing properties of the manure which escaped whilst becoming decomposed, fed the crop—the bed of the manure was not broken open, nor was it exposed to evaporation, until the soil had become "seized in its demesne as of fee" of all its treasures, save those which had already produced food for man and beast. A few manurings in that way will make a very poor field of any susceptibility rich.—[American Farmer.]

Fermented Manure.—A writer in the Northern Farmer gives the following indirect proof against his own theory, by stating what old experienced farmers believe. Says he,—

"Strange as it may seem, many old farmers yet believe that old rotted manure promotes vegetation better than fresh, or unfermented manure! They appear to be ignorant of the fact, that the longer manure remains exposed to rot, the less nutriment or food for plants it retains; and the more it becomes assimilated to mere earth."

Straw Cutting Machine.—A few weeks ago, we purchased for a subscriber on the eastern shore of Maryland, one of Sinclair & Moore's straw cutters, of the middle size. We this week received from him the following testimony of its excellence, which we publish rather for the benefit of the public, than for that of the worthy manufacturers. By the way, it seems to be universally allowed by all who have tried it, that the saving by the cutting of *all long food* for stock is a very important one. We have noticed the testimony of farmers, of graziers, of dairy-men, and of stage proprietors, all to the same point, and have never heard one state a contrary opinion against it. Those who have tried steaming this cut food, seem to agree pretty unanimously that this operation improves its quality still as much more. Surely these facts are worthy the careful attention of all concerned in the feeding of cattle and horses—but here is an extract from our friend's letter:

"I am delighted with my straw cutter. It will have saved all the money it cost before May-day. The 'meat, drink, washing and lodging,' of *each* of my carriage horses, cost me the last year at least $100: by means of the straw-cutter, I can give them better board, keep them sleeker and happier; and (at the present price of produce) *both* of them, the current year, will not cost me more than $60. I shall be the means of procuring a market for several straw-cutters, at which I rejoice, not on account of the seller, but the buyer.—[Amer. Farmer.]

Large Crop of Turnips.—We take the following from the Rutland (Vt.) Journal:

Mr. Maxham: Sir—For the entertainment of the readers of the Journal, I take the liberty to tell you about my English turnips. In May or June last I sowed a patch of the flat English turnips for early use, and after using what we wanted in the summer, the remainder stood till fall. When we came to harvest them, they were so large and fair, that I was induced to measure the ground, and also to weigh and measure the turnips. After pulling and trimming them, the smallest turnip weighed one pound and nine ounces, and the largest ten pounds and ten ounces. The average weight of the whole number was five pounds and one ounce. One third of the number averaged eight pounds and six ounces each; and seven of the largest more than filled a bushel basket, well packed. Upon a fair measurement, they produced at the rate of 2500 bushels to the acre. The circumference of one was 30 inches; another 31½; another 35. They were perfectly free from maggots. Yours, respectfully,

John Sweetland.

Wallingford, October, 1833.

Burnt Tongue.—This disease, which we mentioned in our last, and for which we gave recipes, has become very prevalent in this and some other sections of the State. It is undoubtedly an epidemic, as it attacks those which have not been near or exposed to those suffering with it. Hogs, horses, and cows, all have it.

At first, it appears like a blister upon the tongue, or in black patches upon the lips. The animals appear sluggish, drool, and eat hay with difficulty: sometimes, they refuse all nourishment, and seem averse to drinking. Water, whether cold or warm, when drank, brings on an ague fit, and they tremble and shiver exceedingly. Some of the horses have been attacked in the feet. A swelling and eruption commences at the top of the hoof, accompanied with evident pain and soreness.

We have treated one case of this kind successfully by washing the feet with warm soap suds—then by a weak solution of chloride of lime, and a bandage soaked in pigs' foot oil. A very weak solution of oil of vitriol, used as a wash, has been successful in those cases where it has been tried. Physic of some nature should be freely used.—[Maine Farmer.]

Black Tongue.—We scarcely open a newspaper from the country, without meeting a paragraph or a communication respecting a disease in horses and cattle called the *Black Tongue* or the *Burnt Tongue*. It is said to prevail chiefly among horses, but is not uncommon among cattle. Some respectable physicians have given their opinion, that if any person who was taking care of animals afflicted with this distemper, should get any of the matter of the diseased tongue into an eye or a flesh wound, it would be a very serious affair, and might prove fatal. We have heard that several persons in the country are now suffering under an inflammation from this cause.—[Boston Courier.]

Poke Berries.—Dr. R. R. Harden states, in the Southern Planter, that he has found these berries to be a certain cure of epilepsy.

Prize Medals to be awarded, for Discoveries in Science, by the Royal Society of London. [From the Journal of the Franklin Institute.]

Gentlemen,—I am directed by the American Philosophical Society to communicate to you, for publication, the annexed letter, received at their last stated meeting. The object of the Society is to diffuse the information given in that letter throughout the scientific community in the United States.

Very respectfully, yours,
A. D. Bache,
One of the Secretaries, Am. Philo. Soc.

Somerset House, Apartments of the Royal Society, London, Aug. 3, 1833.

Sir,—I am honored with the commands of His Royal Highness, the President of the Royal Society, to acquaint you, for the information of the American Philosophical Society, at Philadelphia, that His Majesty, the King, has been pleased to grant two gold medals of the value of £50 each, to be awarded by the Royal Society on the day of their anniversary meeting in each succeeding year, for the most important discoveries in any one principal branch of physical and mathematical knowledge.

His Majesty having graciously expressed a wish, that scientific men of all nations should be invited to afford the aid of their talents and researches, I am accordingly commanded by His Royal Highness the President to announce to you, sir, that the said Royal Medals for 1836 will be awarded in that year: the one for the most important unpublished paper on Astronomy, the other for the most important unpublished paper in Animal Physiology, which may have been communicated to the Royal Society for insertion in their Transactions, after the present date, and prior to the month of June, in the year 1836.

For the present, and the two following years, the Council of the Royal Society, with the approbation of His Majesty the King, have directed the Royal Medals to be awarded for important discoveries or series of investigations published within three years previous to the time of award; and those for the year 1833 have been adjudged, the one to Sir John F. W. Herschel, for his paper on the investigation of the Orbits of Revolving Double Stars, inserted in the fifth volume of the memoirs of the Royal Astronomical Society; the other to Professor Decandolle, for his investigations in Vegetable Physiology, as detailed in his work entitled Physiologie Vegetale.

I have the honor to be, Sir, your most obedient servant, Charles Cunig,
For. Sec. Roy. Soc.

To the Secretary of the American Philos. Soc., Philadel.

Rain Water.—In our country there falls rain, including melted snow, to the average depth of 35 inches. On a surface forty feet square, there falls yearly 34,009 wine gallons; and if all this were secured in cisterns, there would be nearly one hundred gallons for every day's consumption, or about three barrels. This water, if well preserved, would be the very purest and best for most domestic purposes. The horse and the cow prefer rain water to pump or well water; and though it would not be entirely governed by their decision, yet great respect is due to their judgment in such matters. The water of many wells is tinctured in such a way as to make it less fit for a solvent; and it does not so perfectly combine with nutritious substances, to form kyle, and nourish the human system. They who live in situations where water is not easily procured from the ground, may be told that the purest water is descending around them; and if they will only be at the necessary expense to secure this gift of heaven, they may provide an abundant supply. On such reservoirs the inhabitants of Palestine placed much dependence; and it is a merciful appointment of God, that in warm countries, where the greatest supply of water is needed, the most rain descends. We may yet find good capacious cisterns, of brick or stone, and Roman cement, economical additions to our domestic conveniences. A cistern ten feet square, and ten feet deep, would contain 118 hogsheads of 63 wine gallons each, and would secure to most families a constant supply of water.—[Scientific Tracts and Lyceums.]

Wonders of Art.—You behold a majestic vessel bounding over the billows from the other side of the globe; easily fashioned to float with safety over the bottomless sea; to spread out her broad wings, and catch the midnight breeze, guided by a slow drowsy sailor at the helm, with two or three companions reclining listlessly on the deck, gazing into the depths of the starry heavens. The commander of this vessel, not surpassing thousands of his brethren in intelligence and skill, knows how, by pointing his glass at the heavens, and taking an observation of the stars, and turning over the leaves of his "Practical Navigator," and making a few figures on his slate, to tell the spot which his vessel has reached on the trackless sea; and he can also tell it by means of a steel spring and a few brass wheels, put together in the shape of a chronometer. The glass with which he brings the heavens down to the earth, and by which he measures the twenty-one thousand six hundredth part of their circuit, is made of a quantity of flint, sand, and alkali—coarse opaque substances, which he has melted together into the beautiful medium, which excludes the air and the rain and admits the light,—by means of which he can count the orders of animated nature in a dew-drop, and measure the depth of the vallies in the moon. He has, running up and down his main mast, an iron chain, fabricated at home, by a wonderful succession of mechanical contrivances, out of a rock brought from deep caverns in the earth, and which has the power of conducting the lightning harmlessly down the sides of the vessel into the deep. He does not creep timidly along from headland to headland, nor guide his course along a narrow sea, by the north star; but he launches bravely on the pathless and bottomless deep, and carries about with him in a box a faithful little pilot, who watches when the eye of man droops with fatigue, a small and patient steersman, whom darkness does not blind, nor the storm drive from his post, and who points from the other side of the globe,—through the convex earth,—to the steady pole. If he falls in with a pirate he does not wait to repel him, hand to hand; but he puts into a mighty engine a handful of dark powder, into which he has condensed an immense quantity of elastic air, and which, when it is touched by a spark of fire, will instantly expand into its original volume, and drive an artificial thunderbolt before it, against the distant enemy. When he meets another similar vessel on the sea, homeward bound from a like excursion to his own, he makes a few black marks on a piece of paper and sends it home, a distance of ten thousand miles; and thereby speaks to his employer, to his family, and his friends, as distinctly and significantly as if they were seated by his side. At the cost of half the labor with which the savage procures himself the skin of a wild beast, to cover his nakedness, this child of civilized life has provided himself with the most substantial, curious, and convenient clothing, textures and tissues of wool, cotton, linen, and silk, the contributions of the four quarters of the globe, and of every kingdom of nature. To fill a vacant hour, or dispel a gathering cloud from his spirits, he has curious instruments of music, which speak another language of new and strange significance to his heart; which make his veins thrill, and his eyes overflow with tears, without the utterance of a word—and with one sweet succession of harmonious sounds, send his heart back, over the waste of waters, to the distant home, where his wife and his children sit around the fireside, trembling at the thought that the storm which beats upon the windows, may, perhaps overtake their beloved voyager on the distant seas. And in his cabin, he has a library of volumes—the strange production of a machine of almost magical powers—which, as he turns over their leaves, enable him to converse with the great and good of every clime and age, and which even repeat to him, in audible notes, the laws of his God, and the promise of his Saviour, and point out to him that happy land which he hopes to reach when his flag is struck, and his sails are furled, and the voyage of life is over.—[E. Everett.]

The Cheap Transportation of Books and Periodicals.—The present state of society demands a cheap system of conveyance for the diffusion of knowledge. The post-office system is too expensive. On this system conveyance must be more expensive, from its rapidity, than is necessary for all purposes. A vast number of publications now issued are not required to be transmitted with great speed. As mail stages now usually run, they carry a load of one thousand pounds at three times the expense of conveying the same load at a moderate rate. "In England," says the Scientific Tract on Railroads, "every coach on the best roads that runs for twenty-four hours, at nine miles per hour, drawing not over two tons, requires no less than 180 horses, or ninety each way. Less than 12 horses would carry the same weight for the same time, at two and a half miles per hour." In the mail stages of our country, weighing about a ton, less than a ton of passengers and baggage is usually carried. To transport this load at the rate ordinarily travelled, the horses are changed every twelve miles. To carry the load, therefore, thirty-six miles, twelve horses are needed. At the rate of four miles an hour, four horses would transport this load in waggons. At a moderate speed, therefore, a load of magazines and books would be conveyed at one third the cost of transportation by rapid mail stages. But there is no advantage in my having many of the periodicals I receive by a rapid conveyance. A system of baggage waggons, transporting small articles over the country

at a cheap rate, would, therefore, greatly facilitate the diffusion of knowledge. I wish to take the Biblical Repository, and find that four numbers weigh two pounds and ten ounces. I live rather more than 100 miles from Boston; and the postage of the whole, comprising 50 sheets, would be $1.25; while the freight, at the rate at which goods are commonly transported in waggons, would be a little less than 2½ cents. The postage of forty numbers of the Temperance Recorder would be 60 cents; while the freight of the whole 40, if the papers were dried, and thus made light, would not be more than one cent. When the post-office was established there did not exist such a periodical literature as distinguishes the present age; and therefore, the United States did not provide for such a conveyance of packets as is now needed. The law now in force, passed March, 1827, enacts, "That no person, other than the Postmaster General, or his authorized agents, shall set up any foot or horse post for the conveyance of letters and packets upon any post road, which is or may be established as such by law." This law forbids such a system of conveyance of parcels as is contemplated in this article, unless it should be established by the post-office department. But if it should not be thus established, it may be authorised by act of Congress. Why should booksellers and printers, and publishers, be shackled in their business more than other classes of the community? A vast amount of the literature of the country is now periodical. We have our weeklies, our monthlies, our quarterlies, and our annuals, without number. We have our libraries too; the Christian's Library, the Select Circulating Library, and a variety of others. It is desirable that there should be a regular and cheap conveyance of such books. This difficulty of distributing periodicals over the country is of the nature of a heavy duty on them. The postage on a periodical, which does not convey news, and needs not to be carried post haste, now greatly increases its cost, and checks its circulation. If shoes, and hats, and other articles of manufacture, could be conveyed only by government lines, at the cost of 33 per cent. on their value, the manufacturers would be exceedingly embarrassed; and the public, too, would be injured beyond calculation, especially if the manufacture could be carried on only in one place in a whole county, or in a whole state, as is the case with books and periodicals.—[Scientific Tracts and Lyceums.]

DESCRIPTION OF THE VOCAL ORGANS.—[We are allowed to extract the following description of one of the most interesting parts of the human frame, from the Anatomical Class Book, by Dr. J. V. C. Smith,—the pioneer, we believe, of popular textbooks on this subject.]

By voice, animals have the power of making themselves understood to their own species—and these sounds are either *articulate* or *inarticulate*.

Language is an acquired power, having its origin in the wants of more than one individual. Man, without society, would only utter a natural cry, which sound would express nothing but pain.

Supposing a human being to have been entirely forsaken by those of his species, in that state of infancy when he could have no recollection of any thing pertaining to his race, his voice would, in essence, remain the cry of an infant, only strengthened in tone, at a particular age, by the development of the vocal organs to their destined size.

But let two individuals be placed together, but without communication or knowledge of the existence of beings similar to themselves, the natural cry of each would undergo modifications: the one would make a sound, to express a particular sensation, which in time would be understood by the other: a repetition of the same note would be the sign of that sensation in future.

An additional sensation, having an intimate connection with the first, would require a variation of tone,—and this would also become a symbol of two sensations. Here then would be the origin of language. Multiply the species, and each new member of the society would express some other sensation or want, by another modification of the original cry. Here we discover the certain commencement of a spoken language; these different sounds becoming classified, constitute a dictionary, in which each word is the mark or sign of particular sounds; thus, if an individual can imitate the sound, or a series of sounds, he masters a language. Let it be remembered that man could never arrive to this perfection in sound or language, if his vocal organs were not differently constructed from brutes. Such is the mechanism of theirs, that so many sounds, and no more, can be made; but in man's organs, there is no limitation—no sound appreciable that he cannot imitate.

The Vocal Box, or Larynx.—Directly under the integuments on the front side of the neck, is a cartilaginous tube, the *trachea*, or wind-pipe, built up of a series of narrow strips, which are portions of a ring; therefore, it is always kept free and open. At its lower end it divides into two branches, going to the lungs on either side, but its upper portion is enlarged, just under the chin, and finally opens in common with the tube of the stomach and mouth. This enlarged part, quite prominent in man, is the *larynx* or vocal organ.

Several cartilages assist in its formation, viz., the *thyroid*, *cricoid*, the *arytænoid*, and the *epiglottis*. The cricoid is the foundation; the thyroid is the wall around it; the arytænoid are appendages to the back of the cricoid; and the epiglottis is a valve, opening and closing the entrance into the windpipe, like the valve of a bellows.

Fig. 1.

Fig. 2.

Explanation of figures 1, 2.—The five cartilages are—1, the epiglottis; 2, the thyroid cartilage; 3, the cricoid auxiliary; and 4, the two arytænoid cartilages; 5, the two superior horns of the thyroid cartilage; 6, the two inferior horns; 7, the suspensory ligament of the os hyoides; 8, the os hyoides; 9, the azygos ligament, connecting the os hyoides to the thyroid cartilage; 10, the two lateral ligaments connecting the horns of the os hyoides to the superior horns of the thyroid cartilage.

One of these diagrams presents a front and the other a back view of the *larynx* or vocal box. The bone of the tongue is seen, like half of a hoop, marked 8, in both plans. 2 is the front of the *thyroid cartilage*, felt under the skin—protruding in the form of an irregular tumor. The wind-pipe is the tube at the bottom of each larynx. The *vocal cords*—the membranes which vibrate to produce sound, as the current of air rushes by—are concealed, being placed inside. From the remarks in the text, together with the references, a very correct idea will be formed of the structure of this curious organ. By blowing through the wind-pipe of almost any animal, soon after it is slain, provided the larynx has not been injured, the vocal cords may be put in motion, and the sound which is produced will bear considerable analogy to the natural voice of the animal.

Within the larynx, and consequently below the valve, are four delicate membranes, two on each side, put upon the stretch—being, in fact, like shelves—their thin edges nearly meeting from the opposite sides, so that there is scarcely any space between them. These are the vocal cords.

When the air rushes out from the lungs through the wind-pipe, it must obviously pass through the larynx,—in doing which it strikes the tense edges of the cords, and produces a vibration. This vibratory motion given to the current of air produces sound. In the cavities of the bones of the face, forehead and nose, its power is increased, and in the mouth it undergoes further modifications, and ultimately becomes articulate language. The teeth, tongue, lips, nose and fauces, have each an influence in the production of articulate sounds. Hence grammarians have arranged the human voice under the appropriate divisions of *guttural*, *nasal*, *dental* and *labial* sounds,—expressive of the agency which each of these organs exert on the original tone.

Shrillness or roughness of voice depends on the diameter of the larynx,—its elasticity, lubricity, and the force with which the expired air is propelled through the *rima glottidis*, or slit-like chink, between the vocal cords.

It is because the larynx is smaller in women, and more elastic, that their voice is of a different character. The breaking of the voice, (*vox rauca*,) noticeable in boys, at a peculiar age, depends partly on the enlargement of the apartments within the bones, which generally takes place at that important crisis of their lives, when the whole constitution undergoes a sudden change.

But the mechanism of voice would have been incomplete, were there not a number of exceedingly delicate muscles, which graduate the diameter of the narrow slit through which the sound escapes into the mouth. Unconsciously, they effect the requisite contractions, forever varying, according to the rapidity, intensity, or strength of the voice, in singing, conversation, or declamation.

Finally, the larynx is a musical wind in-

strument, of the *reeded* kind, on the principle of the hautboy. The nearness of the vocal cords to each other resembles the reed precisely. All the tones of reeded instruments are effected by finger holes,—but the tones of the human voice are varied by the extrinsic and intrinsic muscles, which shorten or elongate the vocal tube. Thus the same result is produced by this process,—increasing or diminishing the diameter of the larynx, that is accomplished in the clarionet, bassoon, flute and hautboy, by a graduated scale of finger holes.

Is not this another beautiful mechanical evidence of the existence of a Being superior to ourselves!

Observations on Architectural, Rural, Domestic, and other Improvements. By ELEAZAR LORD, of New-York. [From the American Journal of Science and Arts.]

NEW-YORK, July 23, 1833.

TO PROFESSOR SILLIMAN:

SIR,—I observed recently in one of the public prints, a brief notice of an association of gentlemen in your city, for the purpose of ascertaining and recommending the best plans and models of domiciliary architecture. The questions to be investigated relate, as near as I remember, to the architectural proportions, materials for building, and methods of warming and ventilating apartments, by which durability, economy, and convenience, may be combined with elegance and taste.*

These, in every point of view, are questions of great interest. They concern not only the thrift and comfort of individuals and families, but likewise the health, the social character, and indirectly, the morals of households and communities; and considered in these relations, they are worthy of all the attention they can receive from enlightened and philanthropic citizens. It is matter of wonder that they have not hitherto gained that hold on the public mind to which they are entitled; and no less a matter of satisfaction, that they are now to receive notice in a city where there are so many advantages of location, scenery, knowledge, and taste, for their elucidation, combined with right notions of economy, and of all the means of individual and social well being.

But my object in thus taking the liberty to address you, is to suggest, on presumption that you take a part in the proceedings of the association, that the inquiries to be pursued should be extended to some other topics, not less essential to the main design than those which have been announced; or rather that they should commence at an earlier point, and embrace what relates to the kinds of soil on which human habitations ought to be erected, and the choice of localities for that purpose considered in relation to neighboring formations and objects.

Without pretending to do more than to glance at some of the most obvious heads of inquiry under this branch of the subject, I may illustrate what I have in view, by a brief statement of questions which require investigation.

1. What are the chief requisites in a site for a dwelling house?

What circumstances and advantages are desirable, considered simply in relation to the principal design and use of the building; and what, considered in relation to adjacent objects?

2. What descriptions of soil are proper for the sites of dwellings?

What soils are to be preferred for yards, gardens, and adjoining grounds?

What soils are objectionable on account of their natural composition, or their liability to excessive moisture, or other vicissitudes?

3. What kinds of earth are to be preferred for cellars, considered in respect to moisture, temperature, and effects, in different seasons, on vegetable substances, and on the air in the apartments above?

4. What objects in the vicinity are in all cases to be avoided? Among these may be specified:

Marshes and all permanent receptacles of decaying vegetable matter.

Grounds which are periodically overflowed.

Grounds which are excessively wet from ordinary rains during a portion of every year, and which exhibit extensive evaporation.

Ponds which are drained in the course of the summer or autumn; and other

Localities which are occasionally subject to great changes in their condition, and in their influence on the atmosphere.

5. What considerations are to be taken into view in the choice of sites in given cases, as of plains, valleys, hills, mountains, banks of rivers, exposure to winds and storms, particular geological formations?

6. What considerations are to be regarded, in given cases, respecting the depths of cellars, the elevation of the first floor from the level of the adjacent grounds, and the position, height, and form of houses, reference being had to the position of other dwellings, and to that of out-buildings, gardens, roads, streets, and distant scenery, and to exposure to winds, storms, cold, and heat?

7. What, with relation to dwellings and to each other, should be the position of barns and other out-buildings?

8. What cautions ought to be observed in the location and construction of dwellings and out-houses, to guard each and all of them against the hazard of fire?

9. What plans and measures are to be adopted respecting door-yards, courts, gardens, shrubbery, vines, and trees?

10. What is to be aimed at in respect to water for household use, and in what cases are pumps or aqueducts to be preferred to wells and fountains?

11. What plans and materials for fences are to be preferred?

12. What plans and materials are most eligible for walks, intended to be dry, durable, and tasteful?

These, and the like heads of inquiry, would give scope for the most valuable instruction and advice, applicable to every part of our country, and which would, one cannot doubt, be extensively well received, adopted, and carried into practical effect.

Of the thousands and tens of thousands who every year engage in the erection of dwellings, how few possess or are in any condition to obtain the knowledge which is needful to guide their judgments in respect to the most essential of the above particulars, or with a view either to economy, convenience, durability, elegance, health, security from fire, effect on price, or any other advantage, private or public? In how many thousands of instances, even in localities which present, to an informed and observant eye, unobjectionable sites, are all these benefits lost, and great inconveniences and evils incurred for want of such hints and advices as might be comprised in a tract of a few pages? In numerous cases, both of single dwellings and of neighborhoods, it would seem that no one of these advantages could have been so much as aimed at, or taken into account; and what is, perhaps, somewhat more surprising, when a site has once been chosen and occupied, the most painful experience of its evils, the loss of health and of life itself, seldom causes it to be abandoned.

These observations might be illustrated by reference to insulated houses and to villages, and even cities. The public mind is not impressed with the considerations which ought to be had in view in the location of habitations; and in numberless cases, individuals blindly follow bad examples, or are determined by some whim, or some circumstance foreign to the real and permanent benefits, to secure which ought to be their object. Each one, especially in the country and new settlements, builds his house when, how, and where he pleases, as though his successors and the public had no concern with the matter, and as though the erection of a shelter for his family, in a position and by a process which should least interfere with his present convenience and employments, were all that behoved him to take into account.

Hence it is common to observe houses placed where they should not be, though in the immediate vicinity of eligible sites, while the barns and out-buildings are so near to them and to each other, as to be objectionable on many accounts, besides being all liable to be destroyed by fire in case of the burning of either of them. Houses are likewise frequently built in low and damp situations, where draining is impracticable, while the barns pertaining to them are placed where the dwellings should be, on dry and advantageous locations. In numerous instances, likewise, houses are to be observed, not only on the borders of ponds and marshes, but on the side of them which is opposite to that whence the prevailing wind proceeds.

It were easy to multiply references of this kind; but the subject demands more particular and thorough investigation, and it is of such general concernment that I should suppose the association, besides extending its field of inquiry, might well enlarge its plan in another respect, so as to procure corresponding members, or associations, in different parts of the country and of the world, to co-operate with the primary body, and to publish in your excellent Journal, and in the form of occasional tracts or otherwise, with drawings or cuts, the facts, principles, and advices, which such a combination of means would furnish, and which are so universally needed.

Such an association, branching itself out, and engaging the attention of numerous individuals, might exert a most salutary and effective influence, directly upon the subjects to be treated of, and through them on the health and enjoyments, and indeed on all the personal and social interests of man. That influence would be important in its connection with our moral and political economy, would essentially aid other reformations, would augment the resources of domestic interest and recreation, promote a taste for rural scenery and a love of excellence in every thing, add to the cheerfulness and beauty of dwellings, and prompt to the cultivation of the minds and hearts of their inmates.

* Many other objects were embraced in the plan.—[ED.]

The bearing of such an influence on the subject of temperance, in very numerous instances of dwellings placed in unhealthy situations, is sufficiently obvious; and likewise its tendency to prevent indolence, pauperism and vice, and consequently to diminish the hazards and burdens which one portion of every community imposes on another and better portion. He who is neat and tasteful in and around his dwelling, will be likely to cultivate those qualities of mind and heart which such a state of things implies and requires; and will promote the same associations and habits in his family, and extend them to the literary, moral, and social education and conduct of his children. A portion of such families in each small community would, by their sentiments and example, raise the general standard of opinion and taste, and exalt these arrangements of elegance and comfort into rules of social observance, and requirements of decent propriety.

No such reformation, however, of the opinions, tastes, and habits of mankind, is to be hoped from individual or insulated effort. Reason and argument in such a case will be ineffectual, unless combined with personal and local influence. The threefold cord of association is the indispensable and only adequate instrument of success in an undertaking of this nature; and for the same reasons, even this instrument must be present and locally operative in every vicinage and community where its beneficial results are to be expected.

Nor is the design capable of being so easily or speedily accomplished in any way, as to render unnecessary an extensive organization. Though many of the most important suggestions to be made require no very laborious investigation, and, among those who comprehend them, scarcely admit of two opinions; yet there are questions to be resolved respecting the location and structure of dwellings, almost as numerous as the varieties in the surface of the earth, and the wrong notions and habits of those who occupy it—questions which demand extensive inquiry and observation, and which will not be exhausted while any thing remains unknown of earth or air injurious to human health and happiness. The subject involves the physical nature, circumstances, and wants, of man, and in no slight degree his welfare as a rational, social, and accountable being; it has an important relation to his plans, employments, and success in life, and, indeed, to his whole history; it is to be studied in all its relations to nature and art, its relations to what is uniform and unalterable in the earth, to the various changes which are taking place in the surface, to various local peculiarities, to the increase and decay of vegetable matter, and the neglect or progress of cultivation, to changes in the course and deposits of streams, to the condition of natural and artificial collections of water, to climate, and to the long catalogue of local, periodical, and epidemic diseases.

A general reformation of the opinions and tastes of mankind, in respect to this whole subject, is greatly to be desired as a means of temporal happiness. No small proportion of the self-procured and the hereditary misery and degeneracy of the race, proceeds from ignorance and neglect of what is every where practicable in relation to this subject.

Who that closely inspects the sites, plans, materials, and condition, of all the habitations in any district of country, or in any town or city, and the character, habits, pecuniary circumstances, pursuits, recreations, and enjoyments, of their respective occupations, but must be forcibly struck with the powerful and discriminating effects of the causes which are involved in this field of inquiry? Who that traces the progress of an individual from his infancy in a mean, filthy, and ill situated abode, to one that is desirable for its location, structure, and other advantages, can fail to perceive the operation of these causes?

Of how many, both of the best and worst members of society, may it not be said, that the influence of such causes on their natural dispositions and tastes, determined their course above or below the level on which they started? I remember an anecdote, related to me by the late Rev. Dr. Strong, of his ancient preceptor, Dr. Bellamy, who, on parting with two of his pupils, by way of caution and advice to them, indicated, as what he had dreamed, his impressions, founded, no doubt, on what he had observed of their capacities, tastes, and habits, respecting their future career. The rising progress of one he traced to a thriving and beautiful parish, a handsome and commodious dwelling, and subsequent usefulness and honor. The other he followed from one thriftless and quarrelsome parish to another, till he reached the poorest and most desolate section of New-England. He afterwards visited the first at his residence in Hartford, and the other in a wretched tenement, surrounded by ragged children, in a parish which could boast only of such a minister, with no meeting-house, no school, and scarce a single entire glass window.

But there are other and far more important consequences to be looked for, than those which relate merely to temporal comfort and prosperity: consequences which involve the intellectual and immortal interests of men. And in that improved and cultivated state of society which the scriptures teach us to expect, when the present causes and occasions of degradation and sorrow will be resisted and overcome, when the evils we endure will be obviated by the Divine blessing on a wise and proper exertion of our faculties, this reformation will be universal and complete.

There is, then, every encouragement of growing and ultimate success to cheer those whose part it is to promote this object. And there surely are not wanting those in every place who by their education and circumstances are qualified to take a part in it, and who by a common effort may soon do much for its advancement.

Let such fancy to themselves a town or village in a location free from all material objections, and possessing every essential advantage, and laid out and built in such a manner as to secure all the objects, public and private, which are desirable; let it be supposed that the benefits of such an arrangement are appreciated by the inhabitants, and that they agree in their tastes and opinions on this subject; and can there be any more doubt of the good effect of such a state of things on all the interests, character, and welfare of the families concerned, than of the actual difference between the worst and best sites, buildings, and occupants, in towns as they now exist?

Let them also consider what evils might be easily obviated, and what benefits secured, in their own immediate neighborhoods, by the improvements which attention to this subject would suggest; and to what more useful or creditable purpose their talents, knowledge, and leisure, can be applied.

The subject may fitly be commended to the attention of lyceums and other existing institutions in different parts of the country, with particular reference to their respective localities.

With great regard, I remain your obedient servant, ELEAZAR LORD.

DAIRY HUSBANDRY OF HOLLAND.—Some idea may be formed of the great importance and extent of the dairy husbandry in Holland, by examining the official returns of importation into this kingdom. In the year ending 5th January, 1830, it appears that out of 148,164 cwt. of butter imported from foreign countries, 116,233 cwt. were imported from Holland; and of 168,900 cwt. cheese, 167,913 cwt. were imported from that country. The duty alone on these two articles from Holland, at 20s. per cwt. on butter, and 10s. 6d. on cheese, amounted to £204,386, and these quantities must have cost the consumers, the butter, £523,048; the cheese, £292,282; total, £815,330.—[Mr. Mitchell on the Dairy Husbandry in Holland.]

SUBSTITUTE FOR SWEET POTATOES.—The cocoanut squash, cut into pieces, and roasted like sweet potatoes, is found to be fully equal to them, and so closely to resemble them in flavor that it would be difficult to distinguish between them. It grows freely in this climate, and may be kept till mid-winter.—[Goodsell's Farmer.]

AGRICULTURAL SCHOOL.—The Editor of Goodsell's Genesee Farmer has admitted into his paper a rather illiberal and jaundiced communication, signed a "Farmer," against a State Agricultural School, and particularly against remarks in New-York Farmer, vol. vii., page 1. The only decent paragraph in the communication, and the only one that pretends to advance an argument or give a reason, is the following:

"I can tell the writer, that most of our young men from this section of the country are going on to Ohio, Illinois, or Michigan, as our *farming population is at this time in all probability greater than it will be five years hence*, and I do not think the State of New-York is bound to educate settlers for other States!!!"

What admirable logic and foresight! How noble, generous, and patriotic the soul that gives utterance to such sentiments! Let most of our enterprising young men go to the West, and then let us oppose every measure calculated to benefit the rest, and our "Empire State" will continue to flourish, and even render the whole Valley of the Mississippi perfectly insignificant!

HORTICULTURAL SOCIETY OF MARYLAND.—At the regular monthly meeting of this useful association on Saturday evening last, 1st February, the following, received from Dr. Perrine, U. S. Consul at Campeachy, were exhibited:

Seven hammocks, made of the Sisal hemp—various specimens of the leaves from which the hemp is procured—supposed to be the *Agave Americana*. A variety of seeds—and two hives of stingless bees.

The committee on the culture and products of the Kitchen Garden acknowledge the receipt of specimens of asparagus and rhubarb, raised by Mr. Blanchard, Gardener to B. C. Howard, Esq.

Also, some uncommonly large specimens of carrots and parsnips, from Capt. Wm. Matthews.—[American Farmer.]

ALBANY COUNTY AGRICULTURAL SOCIETY.—At a meeting of the Executive Committee of the "Albany County Agricultural Society," at the city of Albany, on the 6th January, 1834,

Resolved, That Stephen Van Rensselaer, jr., John Haswell, James L'Amoureux, Elijah Cheesbrough, Francis Lansing, Eli Hutchinson, and Abraham Ver Planck, be, and they are hereby appointed, delegates to represent the "Albany County Agricultural Society," at the next meeting of the State Agricultural Society.

Resolved, That Jesse Buel, Aaron Livingston, Zina W. Lay, Richard Campbell, John M'Carty, William N. Gill, James B. Woods, Abraham Ten Eyck, jr., Frederick Bassler, jr., and Jacob J. Weidman, be, and they are hereby appointed, a committee of view to decide upon the best improved farms in the county.

Resolved, That the Chairman and Secretary be, and they are hereby appointed, a committee to prepare and publish a list of premiums to be awarded at the annual meeting in October next.

STEPHEN V. RENSSELAER, jr., Chairman.
JAMES L'AMOUREUX, Secretary.

N. B.—It is requested that the subscription papers to the Society, now in the county, be returned without delay to Caleb N. Bement, Treasurer, Albany.

RENSSELAER COUNTY AGRICULTURAL SOCIETY.—The spirited proceedings of the convention, that formed this society, is well worthy of imitation in other counties. We hope, and fully believe, that this society will exert a happy influence throughout the state. Its central situation will enable its members to give encouragement and strength to the State Society.

Pursuant to public notice, a meeting was held on the 14th January, at the Mansion House in the city of Troy. Hon. Horatio Hickok was called to the chair, and John J. Viele appointed secretary. The object of the meeting having been explained, on motion of Col. H. I. Genet—

Resolved, That we do now proceed to form an Agricultural Society for the county of Rensselaer, and that a committee be appointed to draft a constitution, and to report suitable names for the officers of the society.

The following persons were appointed said committee, viz.: Philip Viele, Horatio Hickok, Bethel Mather, Peter Abbott, H. D. Grove, Christopher Van Pelt, Geo. T. Dennison, H. I. Genet, and Orin Goodrich.

On motion a committee of five were appointed to draft resolutions expressive of the sense of this meeting. A. Knickerbacker, John J. Viele, Alexander Walsh, N. M. Masters and E. F. Willey, were appointed such committee.

The committee, after having retired a short time, reported as follows: The committee on constitution and officers reported a constitution, which, after some amendment, was adopted. They also reported the names of the following persons for officers of said society, viz.:

Edmund C. Genet, President; Moses Warner, 1st, Martin Spunger, 2d, Smith Germond, 3d, Bethel Mather, 4th, Vice Presidents; Philip Viele, Corresponding Secretary; David C. Norton, Recording Secretary; Alexr. Walsh, Treasurer.

Henry Vanderburgh, H. D. Grove, and John J. Viele, together with the officers of the Society, constitute the Executive Committee. A committee of two from each town was also appointed to circulate a petition to the legislature, and obtain members to the society.

The following persons were appointed said committee, viz.:

Troy—Thomas White, Philip Viele; Lansingburgh—Elias Parmelee, John C. Filkin; Schaghticoke—Bethel Mather, A. Knickerbacker; Hoosick—C. Lansing jr., J. B. Lottridge; Petersburgh—Stephen Reynolds, jr., Aaron Worthington; Grafton—Ziba Hewit, Z. P. Burdick; Berlin—I. W. Thomas, Hezekiah Hull; Brunswick—Mr. Van Pelt, Mr. Derrick; Stephentown—Erastus Brown, Nathan Howard; Nassau—Silas Ambler, John Van Dusen; Sandlake—Richard Spencer, jr., Col. Knoulson; Greenbush—Isaac Aikin, John Defreest; Scodack—Henry Vanderburgh, Oren Goodrich.

Mr. J. J. Viele, from the committee on resolutions, reported—

Whereas, meetings have been held in several of the counties of this state, in which petitions to the legislature have been adopted and signed, praying for an appropriation of public moneys for the improvement of Agriculture; and believing such appropriations due the farming interests, and warranted by the highest considerations of public utility, therefore

Resolved, That we will cordially unite in such applications, and recommend that a petition for that purpose be forthwith prepared and circulated.

Resolved, That we hail the present as an era auspicious in the annals of the agriculture of our country, that we view with pleasure the efforts now making to enhance its prosperity, to elevate its character, and to increase its productions.

Resolved, That in the opinion of this meeting, the honor and glory of our state would be promoted, the interest of our country advanced, and the standard of agricultural character elevated, by the establishment of a State Society, with branches in the several counties of this state, for improvement in agriculture and the household arts, with an adequate appropriation, to be distributed or expended in such a manner as shall be most conducive to our object; also a state school, or schools, on a liberal plan, where the sons of farmers can be educated for their professions, where experiments shall be made in all the various branches of husbandry, and where a direct application of science shall be made to the useful purposes of life, thereby developing the physical resources of our country, and calling into action her moral and intellectual powers.

Resolved, That, as farmers, we deprecate the alarming increase and spread of noxious weeds, particularly the Canada thistle, and that we pledge our individual and united exertions to arrest the evil, and that in our opinion a law ought to be passed by the present legislature, with penal enactments, making it the duty of town officers to see them enforced, that the march of the invaders may be arrested, if not entirely routed and driven from our shores.

Resolved, That the Senators from the third district, and the members of Assembly from this county, be respectfully requested to use their exertions to carry into effect the abovementioned projects.

Resolved, That we recommend to the patronage of the farmers of this county, agricultural journals, particularly the New-York and Genesee Farmers, as being most efficient aids to our improvements and the accomplishment of our purposes. And it having also been represented that a monthly agricultural paper, to contain 16 quarto pages in each number, is proposed to be published in Albany, if sufficient encouragement is afforded, at the very low price of twenty-five cents the year; and believing such a publication devoted to useful knowledge would be eminently calculated to do good—Therefore, further resolved, that we will do all in our power to aid in the project and in the circulation of such paper.

Resolved, That N. M. Masters, H. I. Genet, George T. Denniston and C. Lansing, jr. be the delegates from this society to attend the State Agricultural Society on the 12th of February next.

Resolved, That E. F. Willey, Philip Viele and H. I. Genet, be a committee to prepare an address to the farmers of this county.

Resolved, That the editors of the several papers in the third Senate district, the New-York and Genesee Farmers, and all others friendly to the objects of this meeting, be requested to publish its proceedings.

The meeting then adjourned to meet on the first Wednesday in October next, at such place as the executive committee shall deem proper.

HORATIO HICKOK, Chairman.
JOHN J. VIELE, Sec'y.

Address of the Committee of the Agricultural Society of the county of Rensselaer, to the Farmers in said county.

GENTLEMEN:—This address is to you! We intreat you to read it! You believe the common and generally received history of the origin and progress of the population of the world! You then believe that the eight persons alive after the flood have, in a little more than 4000 years, produced 800 millions! At the same ratio of increase, in a few years to come, every rood of land must support its man, and every acre its family, or they must perish for want! You know if you are acquainted with the history of man, that within the last 400 years, the life of man has been increased one half, and the ratio of increase of the population of civilized countries has been doubled! You know or may know that the population of any country will be in proportion to the means of comfortable subsistence in it! You know on a moment's reflection that the means of subsistence in any country depend almost entirely on the state of the agriculture of that country; and that he who would improve the means of comfortable living in any country, will find that he must endeavor to improve the agricultural and mechanical arts of that country, and especially the former.

Is it then, gentlemen, of any importance, to increase the population of the earth? Is it of any importance to add to the number of happy immortal intelligences in your own district of country? Then lend your aid to improve the agriculture of your own country.

You know that the strength and riches of a country are in proportion to the excellence of its agriculture. Where a country has wise, skilful and industrious farmers, it is rich, powerful and respectable; and where the contrary is found, it is a place no man desires to see or cares for. Are riches desirable? Are power and influence desirable? Is it desirable that the region in which you live should present that to the eye of a stranger which is pleasant, and that a high price should be set upon your farms? Then improve the agricultural state of your farm, and as much as possible the farming interest in your neighborhood; yea, it is desirable that your neighborhood and your farm should be the delight of your own eyes, and that your home should be pleasant! This also, in a great measure, depends on the state of your agricultural improvements.

Is it desirable to have things convenient around you—to have your oxen strong for labor, your cows and sheep sound and productive, and your horses handsome and swift! Yea, is it desirable to enjoy more of the comforts of life in your dwellings, and to have a few dollars in your pockets? Then improve the agriculture of your own farm, and use your influence, that your neighbor improve that of his farm.

It may be done! It may be done with little or no additional toil for man or beast! Your country may be able to exhibit an entirely new aspect in all its departments and interests, with comparatively no sacrifice on your part. In neatness, convenience and beauty, it may infinitely exceed what now appears to yourselves, and must appear to every stranger passing through your precincts! In the number and value of your flocks and herds, in the produce of your fields, and in the cash avails of your toil, all may be doubled in six years, by individual and united effort. Do you believe it? How much less than six years did it take for Stimpson, in Galway, in Saratoga county, with means not superior to most of you, to double the value of his farm, and the yearly productions of it? And all was done with no greater

effort than any of you can easily make! And with no better means of information than are within your reach. And how short was the term in which W. Taylor, of Charleton, in the same county, was employed in rendering the value and productions of his worn-out land double. What has been done, may be done. You will see these things have been done in a thousand instances. Several are mentioned in the Cultivator, a paper just commenced in Albany, at a price so low that you may all read it, and at a value to you greater than its weight in gold. You yourselves know, that it costs not much more labor to raise 200 bushels of corn on 3 acres, or even two, than to raise 100 on 4 acres! And every one must know that it is no more work to shear two dollars' worth of wool from one sheep, than to shear one dollar's worth from two sheep. Then, gentlemen, look at the keeping.

Wilber Sherman, a farmer in this county, known to many of you, sells his cheese altogether in market for 10 cts. while others sell theirs for 5 or 6 cts. per lb. Does it cost more to make good cheese than poor? The last fall one of your committee, in company with a merchant, called on Mr. H. Delavan, a farmer in Ballston—the merchant desired to buy his butter. You can have it, said Mr. D., for 25 cts. a pound. I can sell all the butter I can make for that price. And you who are now reading this, was perhaps trying to get 15 cts. for yours. Soon after, your committee saw sold, at the meeting of the Agricultural Society in Albany, a large quantity of butter at from 23 to 30 cts. per pound! Does it take more milk to make good butter than poor? Are the farmers in this country indifferent whether they have cash or not?

A farmer in this neighborhood was about to sow rye on a large field—a friendly neighbor, who happened to see him, said to him, "Sir, you had best sow wheat," and offered reasons, the result of experience: more than double the value in the produce of this field was effected by the suggestion of friendly advice and superior knowledge.

These facts among a thousand others are stubborn things. They prove the position we assumed, that your conveniences, influence, and cash, may be doubled in a short time! You still ask, how can this be done? We tell you, unite with our agricultural society—meet with your companions in toil, who have had experience, and who have grown gray in the study of the best means to make the earth yield her treasures to the support of man! Meet with the farmers of your county, and farmers from other counties will delight to meet with you. Your experience will greatly aid them, when you tell them how much your wheat was increased by sowing on a part of your field good house ashes, about the time it was coming out of the ground—and how much your corn on which you put leached ashes, and how much all your crops by the seasonable use of plaster—and you will be greatly edified by hearing them tell in what manner they fed and fatted their beef and pork, and how they managed their sheep to raise sixty-eight lambs of the best wool from a flock of one hundred, and how they obtained a herd of cattle the best for milk, or labor, or market. Such meetings will teach, and such suggestions "*tell*" of the produce of your farms and the cash in your pockets.

This is not all—such meetings of the agricultural society will not, *cannot* fail to inspire a noble ambition and emulation in the minds of many whose farms are now neglected, and give pain to the beholder—"whose stone walls are fallen down, and over the face of them nettles or thistles grow in undisturbed luxuriance." The Agricultural Society of Jefferson County has added more to the wealth and strength of that county, than the mines of Golconda have to Portugal, and an ancient Agricultural Society in Pennsylvania has done more to increase the riches of that State, than the mines of Mexico and Peru have done to enrich Spain; and your Agricultural Society will do more to add to your comfort and riches, if you attend it and endeavor to profit by it, than the gold mines of the Carolinas will do to enrich them and add to their happiness.

It was a simple suggestion to Landgrave Smith, that introduced the cultivation of rice into the Carolinas, which has done more for them than their gold mines can do. It was a simple effort that introduced potatoes into Ireland, which has doubled the population and wealth of that ancient kingdom. And how simple the suggestion which led to the planting of cotton in the Southern States, which now gives employment and cash to millions.

It is impossible, that those who have made improvements in agricultural knowledge can impart that information which is of immense value to the community, without meetings for the purpose of receiving it. The farmers in general possess one noble and distinguishing trait: it is a readiness to impart all the valuable information which they have on the subject of farming. They have no desire to keep secret those measures by which the condition of their neighbors may be improved. When, therefore, a vegetable of a superior kind is possessed, the farmer brings it to the meeting of the Society; all that see it are desirous to avail themselves of the advantages of such a superior growth; you will be delighted to see with what readiness and pleasure the farmer will tell where the seed may be found, the land on which it must be planted or sown, the time when it must be committed to the earth, the manner in which it must be dressed during its growth, and the time in which it must be harvested.

In the meetings of our Agricultural Society information will thus be communicated that cannot be committed to paper, for the farmer will see and know, hear and be instructed. Farmers who now address you want the suggestions of your experience and observation to assist us in our toils, and we are as willing to impart as to receive the suggestions of wisdom and the results of experience. We trust that the farmers of the county of Rensselaer are not wanting in the noble and distinguishing trait of their profession, mentioned above—that they will as individuals be most ready to meet with their companions in toil and impart all the discoveries they have made; and that we shall soon see, that our crops, our herds, our flocks, our comforts and our cash, are greatly increased!

We cannot close this address without expressing our gratitude to a few individuals, who are engaged in other professions and employments, who have generously come forward to aid us with their scientific knowledge and cash, in the toils of the field. A practical farmer in a late address says,—"Agriculture is already in debt to science. Ignorance and prejudice may deny the obligation, but all the great improvements which have ever been made in agriculture have been effected by the inquiries and experiments of men of enlightened minds, of wealth and public spirit."

Yes, Brethren! we will ever retain a grateful sense of our obligations to such men in this county whose hearts overflow with desires to do good to us, and whose knowledge and wealth give them the means to accomplish what they desire, if we are in a situation to receive it. Yea, we feel grateful to a few such, who, when solicited, have accepted offices in our Society, while all the most important are left to be filled by farmers, who are alone to be judges of merit in farming, and whose hands are to distribute the rewards of superior industry and skill.

ELIJAH F. WILLEY,
PHILIP VIELE,
HENRY S. GENET,
} Committee.

TRANSPLANTING LARGE TREES.—In the Quarterly Journal of Agriculture Mr. Munro gives an improved method of transplanting trees. We recommend it to the attention of the American grower. We should suppose that trees three to ten years old, served in this manner early in spring, might be removed with more safety in June or the succeeding fall.

That the nature of my method may be fully comprehended, I shall, in the first place, as briefly as possible, describe the method commonly practised. A tree being selected, suppose an oak twenty-five years old, the laborer commences by marking a circular line in the turf, which for a tree of this age ought to be 4 feet in diameter, the tree standing in its centre. Beyond this a parallel circle is formed, leaving an intermediate space of 2 feet between the circles. This space the workman digs out to the depth of from 3 to 4 feet, cutting every root he finds in his progress downwards. After having attained this depth, he strikes the spade in a slanting direction all round, and under the mass of earth which contains the roots, until he has ascertained that all the bottom roots are completely severed. The loose soil, or a compost in place of it, is then returned into the excavation, and the tree thus remains for one or more years, according to the pleasure of the planter, in what is termed a state of preparation. This method I practised five years on 300 to 500 trees annually, but with so little success, that I became very anxious to adopt a method more certain in its results. An investigation of the system I had hitherto practised soon made the following defects apparent in it.

On re-opening a trench formed as described above, I found the young roots formed in clusters around the old roots which had been amputated; and not unfrequently before the tree could be lifted from its place, the whole of the earth fell away and exhibited five or more bare roots stretching out horizontally, and each furnished with a bunch of tender fibres at the extremity, not unlike the whips of matting used by boys to spin their tops.

I shall now proceed to detail the result of my own experiment. In the winter of 1824, I selected a handsome oak about twenty-five years old, and large for its years. I dug out the earth from between the two circles as already described, and with a saw cut every root and smoothed every wound, where this could be conveniently done with a pruning-knife. The object which I had in view in this operation, was, in place of encouraging the growth of fibres at the extremities of the amputated roots, I wished to have them formed within the ball of earth all along the old root, and from root to root. To accomplish this desirable end, I threw the loose soil back from the brink of the trench, and roofed in the trench all round with boards, covering up any opening between them with withered grass, and then putting above them about 1 inch of earth. In this situation the tree remained for one year, having no communication with the surrounding earth. At the time I performed this experiment, I doubted whether the tree would be able to undergo this seemingly severe ordeal, but to my joy, when the spring arrived, it was as soon in leaf, made as much wood in the course of the season, and retained the leaves as long as any of its undisturbed neighbors. In the winter of 1825 I took the roofing from the trench, and upon my reducing the ball of earth to a proper dimension for removing the tree, I had the satisfaction to see my anticipations more than realized; for the old roots were not only furnished with fibres, but the fibres were matted sufficiently to retain enough of earth to protect the roots at the time of removal.

This method of preparation speaks so plainly in its own behalf, that I trust nothing more is necessary to recommend it to planters. Those who have any acquaintance with this species of planting, will at once see the advantages it possesses over the old method, and, not to mention the diminution of labor, the obvious certainty of success is enough to recommend it; for there cannot be a doubt, that if a tree were to remain two years under this treatment in preparation, failure would be the exception to the general rule of success.

SALT HAS LOST ITS SAVOR.—Our correspondent should have told *his* friends that one meaning of the passage of dispute is, that when people get angry at a respectful expression of opinion, they in a measure lose their savor or beneficial effects on society. We refer both parties to the best commentaries on the Bible for the origin of the figure of speech.

We assure our correspondent that it is more difficult to give in a periodical simple illustrations of a science than he seems to be aware of. Readers of periodicals are of all mental capacities and degrees of acquirements. Those that read one volume do not all read the succeeding ones, and vice versa. Consequently we cannot give systematic illustrations to accommodate all, without repetition and redundancy; and what would be a simple illustration to one, would be incomprehensible to another.—[ED.]

MR. FLEET,—A few evenings since, in company with some friends, near where there chanced to be sitting a rather respectable and intelligent looking person, something was said about *salt*, to which the person sitting near immediately replied by a well known passage in Scripture,—the 13th verse of the 5th chapter of Matthew. I immediately asked the gentleman what was meant by the salt having lost its saltness, as the passage seemed to denote, and whether the expression could be considered literally correct—whether salt could be said to have lost its saltness, or savor, and salt still remain, without any savor or saltness, as the passage seemed to imply; and whether it could not with the same propriety be said that *sugar* could lose its *sweetness* and sugar still remain? telling him at the same time that I supposed the passage was not to be literally construed. To this he said that salt could lose its saltness or preserving qualities, and salt still remain, without possessing any preserving qualities; that sugar was not a parallel case, and that the passage was to be taken literally; for, says he, "I know from experience that such is the fact. Why do farmers in the country, when a barrel is emptied of its meat, throw away the salt which lies in the bottom of the barrel, if it is not because its preserving qualities have become exhausted? My father in the country always did so." To this I replied, that it must have been done from a regard to old notions, founded on ignorance, and not from having discovered any actual deficiency in the salt thrown away, on examination; for the salt thrown away was in no wise different from the dry salt when it was first put into the barrel, excepting its containing blood, pieces of meat, and other substances mixed with it, which could be easily separated. This put the gentleman much out of humor. He seemed to consider my saying, that if farmers threw away their salt, they did it from ignorance, an insult, and treated me with considerable roughness. "Why," says he, "is not all the salt dissolved, if it be all alike? Is not the circumstance of its falling to the bottom undissolved, although it remained covered with the brine for a great length of time, an evidence that its preserving qualities have become extracted." The extreme ignorance which this question betrayed greatly surprised me. I told the person that any particular quantity of water was capable of combining only with such a proportion of salt, and that if more than that particular proportion of salt were added to the water, instead of combining with it, the salt would fall to the bottom; and that the reason why salt was found in the bottom of the meat barrels, was because the quantity of salt was too great for the water, and not, as he had supposed, because it had become insoluble from having lost its preserving qualities. This did not convince him, and he became more indignant. He said his experience had taught him better—that common sense would teach any man that my opinions were false.

At this moment an aged person, who had overheard the conversation, exclaimed, in a very angry tone, "I am upwards of fifty years of age, and know too that what the gentleman has stated is correct; my folks always threw their salt away, and I think that my experience, with that of so many others, is worth as much as a young man like you." I replied, that the opinions I had stated were not the result of my experience alone, but that my experience was confirmed by that of others, and expressed my surprise that what I had stated seemed to them so far from the truth.

Neither of them have spoken to me since. I am well aware, Mr. Editor, that the practice of throwing salt away is common in some parts of the country, and, I must repeat it again, *it is only the result of ignorance.*

There is one subject, Mr. Editor, which ought to hold a very conspicuous place in every agricultural journal—the science of chemistry. Were the most important facts in this science well understood by farmers in general, many difficulties which they now encounter would not exist, and the ratio of improvement in that most important of all sciences, agriculture, would be vastly increased. I think that every agricultural paper ought to devote a portion of its columns to it, to the exclusion of other less important matter, illustrating the subject amply, and adapting such illustration to the capacities of those for whom it is intended. By so doing, many useful discoveries might be made, from the opportunity which a farmer often has of witnessing many curious phenomena on a large scale, but which he takes no interest in, from his having no knowledge of this highly interesting and useful science. Yours, with great respect, A.

Brooklyn, February, 1834.

OHIO COMPANY FOR IMPORTING ENGLISH CATTLE.—*Mr. Fleet:* It is with pleasure that I can transmit the intelligence that a Company has been formed for the introduction of improved breeds of cattle into this growing and wealthy State. You can easily imagine what a stimulus will be given to the spirit of improvement in our live stock, if this company is persevering and successful. Much will be added to the wealth and resources of the great West through its influence. The hearty encouragement and co-operation of Agricultural Societies are needed. I send you the following extract from one of our papers. F. E. R.

Chilicothe, Feb. 8, 1834.

Mr. Felix Renick, the agent of this Company, left this place on Thursday last, with Messrs. Edwin J. Harness and Josiah Renick, his assistants, for New-York, where they expect to take passage for England on the 8th inst. They are all practical farmers and graziers, and possess, as they deserve, the entire confidence of the Company. The objects of this company, to wit, the importation of some of the most valuable kinds of stock from England, with the view of improving the native stock of this country, is a most laudable enterprise; and, from the skill of their agent in the raising of cattle, and his long experience as a western grazier, every hope is entertained that they may be realized. No man in our community is more highly prized than he who contributes to advance the great interests of the farmer; and we sincerely wish the before-named gentlemen a prosperous voyage, a speedy return, and entire success in the objects they have in view.

SHORT HORN DURHAM AND DEVON CATTLE.—A writer in the Genesee Farmer, under the signature of Ulmus, has collected the opinions of breeders on the comparative merits of these cattle, and given his in favor of the Durham, particularly for the heavy pastures of the West. He has omitted to state one objection to this breed. Butchers in New-York, and we believe generally, have prejudices against them. They think their meat is coarser and darker, and that the great depth or thickness of the flesh, unlined or unmarbled with fat, makes this beef more difficult to be cut up for retail with a suitable proportion of flesh and fat. If these objections are well founded, they should have consideration with those who are about to enter into this branch of husbandry. It should be recollected, too, that we have not, as in Great Britain, a large navy and army to consume our heavy beeves, but must depend on our large cities and towns for a market for fine beeves.

SULPHUR IN TREES.—We have heard of several experiments similar in results to the following. It is said by some that the sulphur cannot rise and circulate in the sap; but as other similar substances have been known to rise in the sap, we see not why sulphur may not. We should suppose, however, that it should not be driven in beyond the alburnum; and on this account it might probably be more effectual, if the hole was bored more perpendicularly—to bring the sulphur more in contact with the sap vessels.

Messrs. L. Tucker & Co.—I have observed some notices in your paper recommending the boring of fruit trees, and the application of sulphur, with a view to their renovation. I am induced to furnish you with an experiment that has fallen within my observation relative to the same. About 10 years ago, two large fine pear trees, on the place on which I live, had been noticed to have been extensively affected with what has been called the "fire blight," and otherwise on the decline. An auger of about three quarters of an inch was bored into the trunk of one of them, the hole filled with partially pounded roll brimstone, and plugged up again. The other tree was left to take its natural course, and in the course of three or four years died. The tree which had been so bored revived, and has borne fruit abundantly since. Last year it was split by a storm of wind, being old and much decayed, by which the perforation was opened to view, and discovered the brimstone apparently in the same state as when it was first placed there—thereby inducing the opinion, that the tree may have been benefitted by the boring, but not from the application of the sulphur, because the same could not have been absorbed by the tree. D. S.

Allegany co., Pa., Jan. 22, 1834.

PRICES OF WHEAT IN ENGLAND.—In the reign of Philip and Mary, 6s. 8d. per quarter; Elizabeth, 9s. do.; James the First, 11s. 6d. do.; Charles the First, 14s. do.; Charles the Second, £1 do.; James the Second, £1 4s. do.; William and Mary, £1 11s. do.; Anne, £1 13s. do.; George the First, £1 19s. do.; George the Second, £1 16s. to £3 17s. do.; and in George the Third's reign, in 1799, Mr James Bonar, then a carrier, paid, at Newcastle, for the use of the Jedburgh bakers, for the best flour 6s. 6d. per stone, and 8d. for carriage, which made a stone of flour of more value than a quarter of wheat in the reign of Philip and Mary.

MALT DUTY.—*England*—For the year ending October 10, 1832, 4,122,590¼ qrs. of Malt, at 20s. 8d. per qr. duty, £4,260,010 3s. 8d.

Scotland—For the year ending October 10, 1832, 370,530 qrs. of Malt from Barley, at 20s. 8d per qr., £382,881; 93,623¾ qrs. of Malt from Bigg, at 16s. per qr. £74,899 6s.; total, 464,153¾ qrs.—£557,780 6s.

Ireland—For the year ending October 10, 1832, 221,304¾ qrs. of Malt from Barley, at 20s.

8d. per qr., £228,680 16s. 7d.; 37,779½ qrs. of Malt from Bigg, at 16s. per qr., £30,223 6s.; total, 259,084 qrs.—£258,904 2s. 7d.

The United Kingdom—For the year ending October 10, 1832, 4,845,828 qrs. of Malt, the duty on which amounts to £4,976,694 19s. 9d.

Malt used in distillation for the United Kingdom from October 10, 1831, to October 10, 1832: in England, 22,561 quarters; Scotland, 328,329 do.; Ireland, 89,866 do.; total, 440,756 quarters. —[Condensed from the Universal Corn Reporter.]

Western Flour consumed in Vermont.—The subject of the following paragraph deserves investigation by the Green Mountain Boys:

The Windsor, Vt. Republican of January, states that in that town alone, $9500 has been paid during the past year for western flour, and that the amount expended for the same article, in Chittenden, the adjoining county, during the same period, is $100,000. A few years ago Vermont raised a surplus of wheat, for which she found a ready market. It is now the reverse; and intelligent men think the amount paid by our farmers for the article of flour the last year, exceeds what they have received for their wool, by many thousand of dollars.

Saving Peas and Beans from Mice.—Chop up the tops of last year's shoots of furze, and sow them in the drill.—[Gardener's and Forester's Record, No. 3.]

Gum Elastic.—Col. Jewett, of Cincinnati, has invented a process of saturating leather with this substance dissolved.

To clean White Satin.—Fresh chalk must be strewed over it, and then well brushed with a hard brush. Should the satin not be sufficiently clean by the first dusting, it may be done a second time, and it will both clean and beautify the satin. The more it is brushed the better.

To extract Grease.—Spirits of wine and hartshorn, mixed together, will restore the colors to silk that is faded in spots. The spirits of wine will take out the grease.

Another.—Scrape a little French chalk on grease spots, on any colored silk, and after a few hours they will entirely disappear.

Imitation of Gold.—"A Chemist," of Washington City, publishes the following recipe for a preparation, which, applied to iron, will make it look like gold:

"Take of linseed oil, three ounces; tartar, two ounces; yolk of eggs, boiled hard and beaten, two ounces; aloes, half an ounce; saffron, five grains; turmerick, two grains. Boil all these ingredients in an earthen vessel, and with it wash the iron, and it will look like gold. If there be not linseed oil enough you may put in more."

Animal Weather Glass.—In Germany there will be found, in many country houses, an amusing application of zoological knowledge, for the purpose of prognosticating the weather. Two frogs are kept in a glass jar, about eighteen inches in height, and six in diameter, with the depth of three or four inches of water at the bottom, and a small ladder reaching to the top of the jar. On the approach of the dry weather, the frogs mount the ladder—but when wet weather is expected, they descend into the water. These animals are of a bright green.

A valuable Dog, belonging to a gentleman of Gettysburgh, Pa. a few days since, fell into a well which was fifteen feet deep to the water. A rope was thrown to him, which he immediately seized with his mouth, and held on, until he was hoisted to the top in safety.—[Phila. Daily Adv.]

Southern Manual Labor Schools.—A manual labor school in Georgia has been so conducted as to show that the pupils can pay for their board and tuition by their labor; and the town of Glynn has given 750 acres of land, chiefly cleared property, amounting to $3,800, to induce its teachers to remove it to their vicinity. The Presbytery of Alabama, as we learn from the Alabama State Intelligencer, have purchased land for locating a similar establishment on such a plan as to receive all classes of Christians. A bill has also passed the legislature of North Carolina to incorporate a school of this kind in that State.

We some time ago mentioned, (says the Quarterly Journal of Agriculture,) in regard to avoiding the attacks of the turnip-fly, that a farmer completely succeeded in avoiding them for many years, by rubbing, keeping, and sowing his turnip-seed among flour of sulphur. Since the turnip insect is attached to the turnip-seed, it is clear that the sulphur must have destroyed them. This attachment of the nidus of the insect to the seed is a very remarkable circumstance, and requires farther investigation than the experiments above related, to establish the fact as a general one.

Scenery and Improvements of Michigan.—A correspondent in the New-York American, under the signature of H., thus writes:

Dexter, Washtenaw co., M.T., Dec. 15.

I have been waiting here since I last wrote in order to join an exploring party of three or four individuals, to go up into Shiawassee county, to examine lands. A heavy snow storm has set in to-day, however, and as it will put an end to the expedition, I shall probably start by myself for the Holemago county to-morrow. The journey to Grand River which I proposed to myself, I shall, from the time it would consume, be compelled now to abandon entirely. I do not regret the time I spent here, for I am not far from the centre of the territory; and while I have my head quarters at a good tavern in a well settled place, I can, in a ride of a few miles, plunge at once into the wilderness. It is a pretty dangerous matter, however, for a stranger to go without a guide, reconoitering through a country where every hill, lake and wood, looks so much like its brother, that the ordinary landmarks are of no assistance to the eye. The scenery of Michigan will be far more attractive when cultivation shall give variety to a landscape which, however beautiful it is at present, is somewhat monotonous. After visiting nearly a dozen of the transparent ponds of every size which stud the surface of the country, and finding but two or three whose firm banks, of some fifteen or twenty feet elevation, assumed a picturesque appearance, from the irregular manner in which they pushed their beautifully wooded promontories far into the lakes they bounded, I started, the other day, to visit a sheet of water somewhat elevated, about twelve miles off. My way, after going a mile or two from the village, led through oak openings of rolling land, called "the short hills," which I can best assimilate to a collection of enormous graves—the tombs of cities, if you choose—thrown confusedly together upon a perfectly level surface—where a patch of wild meadow land—a cranberry marsh, or a bog that looked like the desolated bed of a lake, and frequently indeed the shallow lake itself, filled up the intervals. The huge oaks that crowned the summits of these formal mounds were the only objects that relieved the dreariness of the landscape. even they, I thought, while riding alone beneath their branches, that sighed to the December wind, were not the most enlivening objects in the world. I rode thus for miles, without seeing a living thing, except a raven, which, as that description of bird is only found in these parts of the Union, where wolves still infest the country, I at once took it for granted was hovering near one of the savage beasts to which he so faithfully plays the Jackall.

Marshall, Calhoun co., M.T., Dec. –.

I confess that it was with some pleasure that—after dividing my time for several days, as described in my last, between roads rendered almost impassable by continual snows and log cabins, where the recent settler, however hospitable, had but spare accommodation to offer to the passing traveller—it was with some pleasure that on rising an elevation on the northern bank of the Kalamazoo, I saw a large frame building, which was evidently a tavern, rearing its comfortable looking chimnies above a group of log huts on the plain beneath. My horse, who had doubtless repented of former escapadoes in the companionable intercourse which had now for some time subsisted between us, seemed to sympathize in the feeling; and pricking up his ears, as he snuffed the grain in a flour mill directly beneath us, we descended the slippery height, and were soon tolerably well housed in the new Inn of Marshall. The house was indeed not as yet plastered inside; and the different bed-rooms, though lathed, seemed divided from each other rather by lines imaginary than real. But the bar-room wore already the insignia of a long established tavern in an old community; and apprized me at once, by the placarded sheriffs' notices, and advertisements for stolen horses, grain to be sold, and laborers wanted, which indicate the growth of business in country life, that society was in a pretty mature state—at least six months old—in the county town of Marshall. I was therefore not at all surprised to find among these notices a call for "a Railroad Meeting" in the evening—especially as nearly 18 months had elapsed since the first white man erected his cabin in this section of the country.

The meeting, which might be termed a crowded one, was conducted with more animation than unanimity. There were several very intelligent men present, however, and I listened with interest to their exposition of the resources of this section of Michigan, which, as a wheat growing country, may be justly compared to the celebrated Genesee valley of New-York, while the soil, as I have heard it well observed by a resident, "unlike the heavily timbered land of the Eastern States, instead of wearing out one generation in subduing it for the purposes of the husbandman, invites the plough at once." Nor, if a railroad should be constructed from Detroit to the mouth of the St. Joseph's, passing through the counties of Wayne, Washtenaw, Jackson, Calhoun, Kalamazoo, Van Buren, and Berrien, do I think it would be too bold to assert, that the amount to be transported by the time the work was completed would be equal to one million of barrels; which is a less estimate by two hundred thousand than I have seen given by an intelligent writer on this subject, in a Detroit paper. The route thus designated, I am persuaded, is the right one for a Railroad; though, should a different mode of communication be determined upon, it would be difficult to decide whether it were most expedient to construct a Canal from the Falls of Grand River to Detroit, or from the navigable waters of the St. Joseph's to Monroe. I do not hesitate to add that before two years have expired, all of these routes will be under contract. The abundant resources of Michigan are developing so rapidly, that they will shortly require all these outlets; and in a country where you may drive a barouche and four for hundreds of miles in any direction through the woods, the expense of constructing more artificial ways will be comparatively trivial. Did I not know how ignorant generally the people of the East are of the resources and condition of this country, it would surprise me that some New York capitalists have not embarked in some of these

works. A prodigious speculation might be realized by laying out a Railroad on one of these routes above described; having first purchased the land in its vicinity at Government prices, to be disposed of afterward when its value should be enhanced by the completion of different sections of the work. The ingenious writer above alluded to has already suggested this mode of covering the expense of such an undertaking. You can have no idea of the feeling existing on the subject of internal communications throughout Michigan; and it would amuse you not a little to witness the heart-burnings and jealousies on the subject which pervade a country but just beginning to be populated. The rapidity with which people establish themselves, and collect the indications of agricultural wealth around them, before they have even the ordinary comforts of life, will, in a great measure, account for their looking thus ahead and quarrelling about the game before it is hunted down. The farmer who has more grain in the sheaf stacked in the field than he can accommodate in his barn, is naturally more eager to find the means of sending a share of it to market. I was quite diverted at the turn matters took at the meeting which suggested these remarks, when a discussion in relation to the various routes to be recommended to Government in case they should consent to make a railroad through the Peninsula, became unpleasantly warm. "This pother reminds me, Mr. Chairman," said an old pioneer, "of two trappers, who, in planning a spearing expedition for the next day, quarrelled about the manner in which a turtle which they proposed taking should be cooked for their supper after the day's sport was over. An old Indian happily settled the difficulty by proposing that they should first *catch the turtle!* Now, sir, as this railroad"— "The case is not at all parallel," interrupted a still more ancient speaker, "for *Nature* has already caught the turtle for us. She meant the railroad to pass right along here and no where else."

The councils of the meeting were not on the whole so harmonious as I could have wished from the courtesies offered me after its termination by the adherents of the two parties of Guelphs and Ghibbelins which distract the unborn city of Marshall. But it was surprizing to a stranger upon looking round at the hovels of mud and logs, which as yet occupy its site, to find so many persons of intelligence and refinement thus collected in their precincts. The population of Michigan generally, as I believe I have before observed, is much superior in character to the ordinary settlers of a new country. The ease with which a man can here support a family as a farmer, induces a great many persons of all professions in other States to abandon their former pursuits and become tillers of the soil. The alteration of life, I should judge by the contentment I everywhere witness, is almost always for the better.

I have met with several dispeptics who have been completely cured of that horrible disease by their change of life. With such, health is a sensation—a positive delight; and in duly estimating the blessing, they of course were ever ready to praise the conditions upon which they enjoy it. Others again, bred up in a city, find in the indulgence of that love of rural life, which, when it is a natural taste is inextinguishable, an ample compensation for breaking up established habits and associations. The majority again are men of slender means; and while the necessity of attending practically to the subsistence of their families keeps them employed, the want of pecuniary resources prevents their embarking in the thousand idle schemes which tend so often to the chagrin and the ruin of "gentlemen-farmers." But the main cause of Michigan being settled by such respectable people, remains yet to be mentioned. It is that no one can take up an acre of land without first paying cash for it at one of the three land offices of the territory. The whole surface of the Peninsula has either been, or is now being, surveyed into townships of six miles square. These again are sub-divided into sections of a mile square; which sections are again cut up into lots of forty acres; which is the smallest quantity of land that can be taken up from the Government. The price is invariably $1 25 an acre. When you consider, therefore, that every emigrant who means to *locate*, (this is a sound American word, and as indispensable in the vocabulary of a western man as are an axe and a rifle among his household furniture,) must, however poor, have some earnings in advance to purchase the spot upon which he is to live; and to bring his family to such a remote distance, it will be easy to conceive that the industrious and the enterprising must constitute the largest portion of such a population of freeholders. The prosperity of a whole community, composed of such aggregate masses, may be safely predicted; and though one sometimes meets with those whom the first process of accumulating renders discontented and induces to speak ill of the country, yet in general I may say, that the pride of a Michiganian in the beautiful land of his adoption, is as strong as the home-feeling upon which the citizens of some of the older States pique themselves. As for the sickness which always prevails more or less among the new settlers, to one who is aware of their imprudences, the wonder is that the majority of them escape with their lives. Think but of people setting themselves down on a soil of twenty inches in depth, and in the month of June, when the weeds and wild flowers o'er-top the head of the tallest man, turning over the rank soil immediately around their dwellings, and allowing the accumulation of vegetable decomposition to be acted upon by a vertical sun, and steam up for months under their very nostrils; and yet this, I am told, is continually practised by settlers who come in late in the season, and are anxious still to have a crop the first year. Here, as in the case of those settlers, who, for the sake of the wild hay, locate themselves near the great marshes, imprudence alone is manifested; but the charge of culpability will justly attach to some other cases, when nuisances, not before existing, are created by the owners of property. I allude to the practice, expressly prohibited by the laws of Michigan, of flooding land while constructing mill ponds without removing the green timber growing upon the spot. So pernicious is this to the health of the neighborhood, that it affects very sensibly the value of property near the new pond, and yet in their eagerness to have mills erected, and aid the market of their overflowing granaries, the new inhabitants overlook entirely the gross violation of their laws and the melancholy consequences which ensue to their families. Another cause of sickness is drinking the water of springs or rivers which head in marshes, and are of course impregnated with their baleful properties, instead of digging wells where water is not liable to such exception. As for general healthfulness of situation, I believe it is agreed that the banks of the small lakes which so abound in the Peninsula, are—when these transparent bodies of water are surrounded by a sand beach, which is the case with about a third of them—by far the healthiest. They are fed generally by deep springs, and almost invariably are supposed to have a subterranean outlet, while so beautifully transparent are their waters, that the canoe suspended on their bosom seems to float in mid air. These lakes abound with fish, and in some of them of only a few acres in extent, fish have been taken of forty pounds weight. They generally lie embosomed in the oak openings; and with their regular and almost formal banks, thus crowned with these open groves, these silver pools might be readily taken for artificial trout ponds in a cultivated park. I need hardly add, that it is necessary to diverge, as I have, from the route generally travelled, to see these scenic gems, so numerous, lonely, and beautiful. Not one in a hundred has a settler on its banks, and I confess I take a singular pleasure in surveying these beauties, as yet unmarred by the improving axe of the woodman, and unprofaned by the cockney eyes of city tourists; nor would I change my emotions, while ranging alone over the broad meadows, traversing the lofty forests, or loitering by the limpid lakes of Michigan, for the proudest musings of the scholar that revels in classic land. It may argue a want of refinement in taste, but I confess that a hoary oak is to me more an object of veneration than a mouldering column, and that I would rather visit scenes where a human foot has never trod than dwell upon those gilded by the most arrogant associations of our race.

What are the temples which Roman robbers have reared? what are the towers in which feudal oppression has fortified itself? what the blood stained associations of the one, or the despotic superstitions of the other, to the deep forests which the eye of God has alone pervaded, and where Nature, in her unviolated sanctuary, has for ages laid her fruits and flowers on his altar? What is the echo of roofs that a few centuries since, rung with barbaric revels, or of aisles that pealed the anthems of painted pomp, to the silence which has reigned on in these dim groves, since the first fiat of Creation was spoken?

I shall diverge from my western course tomorrow, a few miles southward, in order to visit a groupe of lakes, near which a band of Pottawattamies, a tribe I have not yet seen, have their encampment. I will leave this letter open, in order to give you the result of my visit.

Pittsthorpe, (Calhoun Co.,) M.T. Dec. 23.

I write to you from a little cottage in a beautiful grove, not far from the banks of the Kalamazoo, where two young gentlemen, recently from the east, have erected their tabernacle in this land of enterprize. It is amusing to observe how little singularity people here attach to a mode of life, which, in older countries would be looked upon as highly eccentric. My entertainers are both young lawyers, liberally educated, and men of much accomplishment, and yet the house in which I am passing the night, with every article of furniture it contains, is of their own manufacture; a saw, an axe, a wood knife, and a jack-plane, being their only tools. It would amuse you not a little, to look through the window, and see our little groupe at this moment. One of my companions, whose axe and rifle are suspended by wooden hooks to the rafters over his head, is professionally engaged in drawing a declaration at the table upon which I am writing; while the other having just got through removing the remains of our game dinner, prepared and cooked by his chums, is now sitting with a long pipe in his mouth, watching a coffee pot, which steams up so fragrantly from the live embers that no light consideration would induce me to part with the interest I have in its contents. Their house, which has been thus occupied for three months, is a perfect pattern of neatness, though as it consists of but a single room, no little ingenuity is required to arrange their books, housekeeping apparatus, and sporting equipments, so as to preserve even an appearance of order in such a banbox. They have already sufficient business, they tell me, to sustain their moderate household; and as the Indians supply them with abundance of provisions, they have ample leisure to devote to study. It is far from uncommon, however, to meet thus with persons of finished education and accomplished manners under as humble a roof as this in the wilds of Michigan: for so rapid is the growth of society here, that he who aims at a prominent station in the new community, must be a pioneer far in advance of the growing settlements. Two years ago the first white man raised his log hut in the county of Calhoun; it has now a population of 1500, and I have passed an eve-

ning in more than one mud-plastered wigwam, whose fair and elegant inmates would grace any society, however refined. I cannot help sometimes, when I see these fair young creatures, the wives and daughters of men habituated by early education to all the comforts and elegancies of refined life, thus submitting cheerfully to every privation for the sake of those whose happiness is involved with theirs, I cannot help involuntarily calling to mind the jargon of novels so often adopted by people of sense in cities, where the terms "excellent match," and "supporting in the station where she has been accustomed to move," usurp all considerations of mutual affection, and capability in the parties united to study each other's happiness through life. I am more than ever persuaded that there are two kinds of refinement in life which bear but little similarity to each other, and the one least often met with is that which is independent of modes and fashions of tailors, milliners, and cabinet makers—which does not necessarily lean upon a pier table nor repose upon a *chaise longue*, which—shall I confess it?—may be nursed without a silver fork. The purest porcelain which the factories of China produce does not require a single tint upon its surface to show the fineness of the texture, but that in which coarser clay is blended is always charged with some gaudy hue to hide the intermixture of the mongrel material. This doctrine, though, is so little in accordance with those taught in the English novels, which constitute the modern text book of elegance, that while the mode of eating an egg is the test of good breeding, and the art of pattering French phrases the criterion of intellectual cultivation, I should as soon think of interfering with the particular province of a lackey or *friseur*, as breaking a spear at such disadvantage with Almacks and Captain Hamilton.

But a truce to this prosing. Did you ever see a *jumper?* A couple of hickory poles so bent that the runners and shafts are of the same piece, with a crate placed on four uprights, complete this primitive species of sledge, and when the crate is filled with hay and the driver well wrapped up in a buffalo robe, "the turn out" is about as comfortable a one as a moderate man could wish. In such a vehicle as this, with a harness every way suitable, viz. a collar of undressed deerskin and reins of rope, (the twisted bark of trees is often used,) did I, with one of my present entertainers, the first companion I have yet had in travelling, sally out from Marshall this morning. My horse, who had detained me here a couple of days by a soreness of his back proceeding from the saddle, seemed highly to approve of this new mode of travel: Mr. Osbaldistone behind Tom Thumb, Sesostris in his chariot, or *Yorke* in one of Brower's new Omnibuses, could not have dashed off with more glee than did we with our merry jumper along the dimpling waters of the Kalamazoo; when lo, just as we had crossed a bridge of unhewn timber and were under full way through the oak openings, our frail barque struck on a rock hidden by the snow, and we were capsized and wrecked in an instant. Fortunately, though both were pitched like a couple of quoits from the machine, we were neither of us hurt; and my companion returning to the settlement to borrow a horse, I mounted mine, and leaving the remains of my crank establishment, where chance had thrown them, I rode on, while he overtook me in time to introduce me to his friend, and make me so pleasantly at home in their dwelling, as you must observe, I now am. Good night, I will tell you to-morrow evening how we dispose of our time till then.

December 24th.

The air was mild this morning, and large flocks of snow-birds twittering among the bur oaks, with the jays screaming from the woods, and the covies of grouse rising continually before us in the openings, made our route to the camp of Warpkesick more like a ride in the spring-time, than a winter excursion. I was accompanied by my companion of yesterday; and as we were both well mounted we galloped over the openings towards Lyon lake, at a rate which brought us in a few minutes to the white sand beach which fringes that beautiful water. The marks of an Indian trail were here easily discernible; and following the foot marks dashed in the yielding sand, the frequent print of mockasons soon led us again away from the shore into a tall wood beyond. A morass that shook for yards around as our horses' hoofs would encounter the sagging peat, was next to be crossed; and then passing between two small lonely looking lakes, where a tall pine or two lifted its sweeping cone above the tapering tamaracks around, we struck at last into a dense forest. Here the numerous deer-runways, with the flocks of wild turkies, and innumerable tracks of racoons, wolves and bears, showed us that we were upon a favorite hunting ground of the Pottawattamies. As for the wolves they are little disturbed by the Indians, who consider them fair hunters like themselves, and privileged to go unmolested; they generally abound around a hunting camp, and soon grow fat on the offals of game slaughtered near it. But bears, though the successful hunter invariably takes his dead quarry by the paw, calls him his grandfather and asks his pardon for killing him, "being compelled to it by necessity," are hunted with great avidity; and you generally find a tamarack swamp, the favorite covert of these animals, in the vicinity of a hunting camp. We had ridden for about a mile through the heavily timbered land, when reaching the banks of the Nottawaseepe, a branch of the St. Josephs, I heard the sound of children's voices, and descried two or three red urchins wading through the shallow stream on stilts, while others of a similar age were amusing themselves in shooting bows and arrows on the opposite side. We immediately forded the stream, and making our way into a swamp, where the horses would sink to their knee at every step, came unexpectedly upon a piece of firm ground, some eighty yards in diameter, and found ourselves in the middle of the camp of Warpkesick. It was composed of three or four wigwams only, but they were large and probably contained several families each. They were constructed of mats, arranged in the form of a tent, and supported by uprights at either end, an opening being left in the centre for the escape of the smoke, and a blanket suspended over a hole cut in the side, supplying the place of a door. The day being mild for the season of the year, the indwellers of these simple habitations were, at the moment of our arrival, variously occupied in several groupes on the outside. Some of the men appeared to be cleaning their weapons, and others were apparently engaged in arranging a bundle of muskrat traps—while one old fellow, whose screwed up features, peering from under a mass of grizzly locks, indicated the cunning of the trapper rather than the boldness of the hunter, was occupied in flaying an otter but just taken. The women were, however, the only ones who appeared to be assiduously engaged—the men having all a lounging air of indolence about them, incompatible with the idea of actual employment—dressing skins was the occupation of the former; and they each sat grouped like a hare in its form around a collection of boiling kettles, over which the skins were suspended. A tall virago of fifty, whose erect stature, elf locks, and scarlet blanket floating about her person, would entitle her to flourish as Meg Merrilies in the frontispiece of Guy Mannering, stood up in the midst; and, had it not been for some tolerably pretty faces among her junior collaborators, might have been taken for Hecate herself, surrounded by the weird sisters of the cauldron. A pack of wolfish looking curs, about twenty in number, completed the assemblage; which, when you take into consideration the variously colored calico hunting shirts, and cloth leggings, in which the females had arrayed themselves, with the white, blue, red and green blankets in which the men were wrapped, constituted about as motley a collection as ever followed Falstaff to the field. Warpkesick himself, the chief of the gypsey band, issued from his lodge while I was thus studying the appearance of his adherents. He was a young man, not more than thirty, with a handsome though somewhat voluptuous cast of countenance and remarkably fine eyes. His stature was rather below the middle size; and though the upper part of his person was extremely well formed, with a deep chest and broad flat shoulders, one of his legs, whether from deformity or misfortune I did not like to inquire, was so twisted under his body as to be worse than useless. He supported himself upon an aspen staff, about eight feet in length, and terminating at the bottom in a round ball, to prevent it, probably, from sinking too deeply into the earth while in rapid pursuit of game; the chief being, in spite of the unsightly incumbrance he is compelled to drag after him, when bounding like a stricken panther, on his prey, one of the keenest hunters of his tribe.

Apparatus for obtaining Fire.—A very ingenious apparatus is now exhibiting at the store of Mr. John Bailey, in Union street, for obtaining fire. It consists of two glass cylinders, the outer one of which contains a compound of sulphuric acid and water, and in the inner one, which is without a bottom, is suspended a piece of zinc. The action of the acid upon the zinc creates a gas, which is let out by means of a valve, and in coming in contact with atmospheric air, immediately ignites a piece of platina exposed to it. The apparatus is very neat, and was constructed by a young man in Mr. Bailey's employ, from a description of a similar work in Europe.—[New-Bedford Gazette.]

Statistics of Brewing in England and Scotland.—There were 216 brewers in Scotland last year, of which above 33 are in the Edinburgh collection. Argyll has only one. There are 17,070 licensed victuallers in Scotland, which is 1 for every 123 persons, young and old, in the country; and though grocers who sell beer are evidently included with innkeepers, the proportion is still very great. England, which is a *thirsty* country, rejoices in 50,800 victuallers, and 30,000 "persons licensed for the general sale of beer," making an aggregate of 81,700 retailers of beer, which is 1 for every 170 souls. England has 1753 brewers, of whom 108 are in London. Of the retailers of beer, 37,000, or nearly one-half, brew their own beer. In Scotland, only 318 out of 17,070, or 1 in 57, brew their own beer. In Scotland, 990,000 bushels of malt were used for brewing in all the 16 collections, of which one-tenth was used by the licensed victuallers; 432,000 bushels were used in the Edinburgh collection; 62 bushels served the two collections of North and South Argyll, containing 100,000 souls. In England, 25,800,000 bushels of malt were consumed in the manufacture of beer: 13,800,000 by the brewers, and 12,000,000 by the victuallers or other retailers. In Scotland, the malt brewed is at the rate of four-tenths of a bushel for each person; in England it is 1¾ bushel. Ireland consumed 1,540,000 bushels of malt in her breweries, which is about two-tenths of a bushel for each person. Of brewed liquor, *one* Englishman drinks as much as *four* Scotchmed, or *nine* Irishmen. In 1831, there were 928,000 bushels of malt used for brewing in Scotland, of which 834,000 were used by the brewers, the rest by victuallers. In 1830, the Scotch brewers consumed 740,000, but the paper from which this is taken does not mention the victuallers. The increase in the quantity of malt used by the brewers since 1830 seems to be about *one-fifth*.

Use of the Roller.—A very small proportion of the farmers in Western New-York are provided with this valuable implement, and I am confident that very few of them would be without it, if they knew its value.

When my wheat came up in the autumn of 1832, I discovered that in one field my hired man had not sowed it evenly; but it was then, as I thought, too late to remedy it. In the spring it presented the same unpromising appearance, being so thin in many places that I anticipated a short crop. Being disappointed in receiving my clover seed for the same field as early as I wished, I was apprehensive of a failure in that also, and to prevent it, directed my son to roll the field. Witnessing the effect, in completely pulverising the crust which had formed on its surface, I was led to conclude that the operation had not only placed the clover seed in a favorable situation to vegetate, but would benefit my wheat also; and therefore directed the residue of my wheat to be rolled. Business called me from home for several weeks, and on my return was astonished to find that my wheat had spread so as to stand nearly as thick as I wished; and at harvest it appeared to be perfectly even, and produced a fine crop. I think that I must have gained by rolling at least one-fourth. My clover seed took well.

Last spring I rolled after sowing and harrowing my oats, which came up very soon and regularly, and produced a heavy crop.

The past autumn I rolled one wheat field immediately after harrowing, and I think it came up more equally and sooner for the operation. I have also rolled a part of two other fields, in order to ascertain whether rolling in autumn is beneficial to the wheat, the result of which I may hereafter communicate. The only doubt I have as to its utility, arises from the belief that snow lying on wheat is advantageous, and a fear that rolling the ground will cause it to be more easily blown off. The above mentioned trial of rolling in the spring is conclusive as to its benefits at that season. Another benefit resulting is, that the ground is left in so smooth a state that the crop is much easier cut, and gathered with less waste.

I have also experienced great benefit from the use of the roller on green sward ploughed in the fall, and left in a rough state through the winter. By passing the roller over it previous to harrowing, the inequalities are removed, and the operation of harrowing rendered much more effective.

I am led to believe that in all cases where green sward is turned under for a crop, rolling must be beneficial, even when it is to be a naked fallow, closing the interstices, and the compression having the effect to produce a more equable and thorough decomposition of the sward.

The effect of a roller on mowing grounds is to enable the mower to cut the grass closer, and to prepare the land for the use of the horse-rake: an implement which, with a horse and boy, will do the work of six men.

Now is the time for every farmer not already furnished with a roller, to procure a stick of heavy white oak, two to two and a half feet diameter, and six feet long; use gudgeons made of one and a half inch iron; drive them in the centre of the stick, then raise it so that the gudgeons will rest on blocks, when there will be no difficulty in bringing it to the shape of an exact cylinder. All that remains to be done is to make a stout frame and tongue, the latter well braced.—[Gen. Far.]

Lime Spreading.—We last week had an opportunity of witnessing the performance of a machine for spreading lime invented by Mark Wilson, of this county, and by him patented. Although the machine was much worn, being one of the first constructed, it spread near a hundred bushels in an afternoon. It is quite simple, and could be made, with the exception of the cog-wheels, by any one accustomed to the use of the saw and hatchet. It spreads the lime in any proportion desired, from 10 to 70 bushels to the acre, and with more uniformity than can be done with a shovel. The machines are made for one or two horses, and it is ascertained that two men can spread, with a two-horse machine, four hundred bushels per day. It can be used in windy as well as in calm weather, no inconvenience arising from the dust therefrom.

We conceive it to be an improvement of much consequence to farmers, who make use of lime as manure, entirely doing away a most disagreeable yet necessary branch of their business. The machines, for two horses, cost about 30 or 35 dollars, and as no one farmer could have constant use for them, by three or four joining together, the expense would be so trifling that we should presume every neighborhood would be able to have among them one of these labor-saving machines.—[Bucks Co. Intell.]

Air Plants.—These attach themselves to the driest and most sapless surface, and flower as if issuing from the richest soils. "A specimen of one of these, which I thought curious," says Dr. Walsh, "I threw into my portmanteau, where it was forgotten; and some months afte , in unfolding some linen, I was astonished to find a rich scarlet flower in full blow; it had not only lived, but vegetated and blossomed, though so long excluded from light, air and humidity. The barren pine is not less extraordinary. It also grows on sapless trees, and never on the ground. Its seeds are furnished, on the crown, with a long, filmy fibre, like the thread of a gossamer. As they ripen they are detached, and driven with the wind, having the long thread streaming behind them. When they meet with the obstruction of a withered branch, the thread is caught, and, revolving round the seed, at length comes into fixed contact with the surface, where it soon vegetates, and supplies the naked arm with a new foliage. In Brazil it grows like the common plant of a pine apple, and shoots from its centre a long spike of bright scarlet blossoms. In some species, the leaves are protuberant below, and form vessels like pitchers, which catch and retain the rain water, furnishing cool and refreshing draughts to the heated traveller, in heights were no water is to be found. The quantity of this fluid is sometimes very considerable, and those who have attempted to reach the flower-stem have been often drenched by upsetting the plant.

Luminous Plants.—In the case of the rhizomorphæ there can be no mistake. These curious plants are found in subterranean cellars and mines, and illumine the darkness which surrounds them with their magic light. In some of the coal mines of Dresden they are singularly beautiful and brilliant. Mr. James Ryan once informed me that he was accidentally shut up in a mine, and the light of one of the rhizomorphæ was so brilliant that he could see distinctly to read a letter by it. As the rhizomorphæ prey on dead wood, they impart to it a phosphorescent light. The rhizomorphæ phosphorentia is found in the mines of Hesse, and yields light in the dark, but ceases to be phosphorescent in hydrogen and some other gases: the rhizomorphæ subterranea and acidula have also been found to illumine the mine with their fairy light. Mr. Erdmann thus describes the luminous appearance of the rhizomorphæ in one of the mines of Dresden: "I saw luminous plants here in wonderful beauty; the impression produced by the spectacle I shall never forget. It appeared, on descending into the mine, as if we were entering an enchanted castle. The abundance of these plants was so great, that the roof, the walls, and the pillars, were entirely covered with them, and the beautiful light they cast about almost dazzled the eye. The light they give out is like a faint moonshine, so that two persons, near to each other, could readily distinguish one another. The light appears to be most considerable when the temperature of the mines is comparatively high." That the light is electric seems most probable, when we consider that an electric discharge imparts phosphorescence to Canton's phosphorus, (calcined shells,) and that heat enhances the light.—[Murray's Physiology of Plants.]

Flowers.—From a chapter on the Flowers, by the author of "*Rank and Talent*," inserted in the *Amulet*, is extracted with much pleasure a beautiful as well as an accurate view of the intentions of Providence, in scattering over the earth those varied symbols of his benevolence: "Flowers are for the young and for the old; for the grave and for the gay; for the living and for the dead; for all but the guilty, and for them when they are penitent. Flowers are, in the volume of nature, what the expression, 'God is love,' is in the volume of Revelation. They tell man of the paternal character of the Deity. Servants are fed, clothed, and commanded; but children are instructed by a sweet gentleness; and to them is given, by the good parent, that which delights as well as that which supports. For the servant, there is the gravity of approbation, or the silence of satisfaction; but for the children, there is the sweet smile of complacency, and the joyful look of love. So, by the beauty which the Creator has dispersed and spread abroad through creation, and by the capacity which he has given to men to enjoy and comprehend that beauty, he has displayed not merely the compassionateness of his mercy, but the generosity and gracefulness of his goodness. What a dreary and desolate place would be a world without a flower! It would be as a face without a smile—a feast without a welcome. Flowers, by their sylph-like forms and viewless fragrance, are the first instructors to emancipate our thoughts from the grossness of materialism; they make us think of invisible beings; and by means of so beautiful and graceful a transition, our thoughts of the invisible are thoughts of the good. Are not flowers the stars of earth, and are not stars the flowers of heaven? Flowers are the teachers of gentle thoughts, promoters of kindly emotion. One cannot look closely at the structure of a flower without loving it. They are emblems and manifestations of God's love to the creation, and they are the means and ministrations of God's love to his fallen creatures; for they first awaken in the mind a sense of the beautiful and the good. Light is beautiful and good; but on its undivided beauty, and on the glorious intensity of its full strength, man cannot gaze; he can comprehend it best when prismatically separated and dispersed in the many colored beauty of flowers; and thus he reads the elements of beauty—the alphabets of visible gracefulness. The very inutility of flowers is their excellence and great beauty, detached from and superior to all selfishness—so that they are pretty lessons in Nature's book of instruction, teaching man that he liveth not by or for bread alone—but he hath another than animal life."

Female Education.—Let your first care be to give your little girls a good physical education. Let their early years be passed, if possible, in the country, gathering flowers in the fields, and partaking of all the free exercises in which they delight. When they grow older, do not condemn them to sit eight listless hours of the day over their books, their maps, and their music. Be assured that half the number of hours passed in real attention to well ordered studies, will make them more accomplished and more agreeable companions than those commonly are who have been most elaborately finished, in the modern acceptation of the term. The systems by which young ladies are taught to move their limbs according to the rules of art, to come into a room with studied diffidence,

and to step into a carriage with measured action and premeditated grace, are only calculated to keep the degrading idea perpetually present that they are preparing for the great market of the world. Real elegance of demeanour springs from the mind; fashionable schools do but teach its imitation, whilst their rules forbid to be ingenuous. Philosophers never conceived the idea of so perfect a vacuum as is found to exist in the minds of young women supposed to have finished their education in such establishments. If they marry husbands as uninformed as themselves, they fall into habits of insignificance without much pain; if they marry persons more accomplished, they can retain no hold of their affections. Hence many matrimonial miseries, in the midst of which the wife finds it a consolation to be always complaining of her health and ruined nerves. In the education of young women we would say, let them be secured from all the trappings and manacles of such a system; let them partake of every active exercise not absolutely unfeminine, and trust to their being able to get into or out of a carriage with a light and graceful step, which no drilling can accomplish. Let them rise early and retire early to rest, and trust that their beauty will not need to be coined into artificial smiles, in order to secure a welcome, whatever room they enter. Let them ride, walk, run, dance, in the open air. Encourage the merry and innocent diversions in which the young delight; let them, under proper guidance, explore every hill and valley; let them plant and cultivate the garden, and make hay when the summer sun shines, and surmount all dread of a shower of rain or the boisterous wind; and, above all, let them take no medicine except when the doctor orders it. The demons of hysteria and melancholy might hover over a group of young ladies so brought up, but they would not find one of them upon whom they could exercise any power.—[For. Quar. Review.]

Female College of Bogota.—The Female College, established last year at Bogota, held its first public exhibition on the 31st of June, (if we mistake not,) after it had been in operation eight months. The programa of this institution we perused with peculiar interest, as it is, we believe, the only one of the same name and destiny, under the patronage of any government in the world, and is likely to exercise a most extensive influence in South America.

It may, perhaps, hereafter affect Spain, whence a degraded plan of female education was received, and whose example has tended to discourage the intellectual elevation of woman. The President is a lady. There are three classes: the first with five pupils, the second with six, and the third with ten; total, twenty-one.

The first class debated the question, 'What instruction ought a well educated woman to enjoy?' This subject was divided under several heads: The general duties of women; their private duties; their disadvantages in society, and the means of removing them; how they may improve their condition in society, and perform their duties; false merit; external accomplishments; real merit; intellectual qualities; domestic arrangements, and cultivation of the intellectual faculties. The other exercises of the first class were in Castilian Grammar, French, Christian Morals, Manners, Arithmetic, Drawing, and Music.

The intention of the government is, to add to the funds, the professorships, and the branches of study in this institution, as soon as circumstances shall allow; but to those who are acquainted with the state of society in South America, it will be perceived that it is already as important a step, comparatively speaking, as a well endowed female university would be in the United States. We hope to give more hereafter in relation to it.—[Annals of Education.]

Consumption of Silk.—The quantity of this material used in England, alone amounts each year to more than four millions of pounds weight, for the production of which, myriads upon myriads of insects are required. Fourteen thousand millions of animated creatures annually live and die to supply this corner of the world with this luxury! If astonishment be ascribed at this act, let us extend our view to China, and survey the dense population of its widely spread region, whose inhabitants, from the emperor on the throne to the peasant in the lowly hut, are indebted for their clothing to the labors of the silk worm. The imagination, fatigued with the flight, is lost and bewildered in contemplating the countless numbers which every successive year spin their slender threads for the service of man.—[Rep. of Pat. Inv.]

Fertilization of old Lavas.—Among the practical consequences that result from the facility with which Cacti strike from cuttings, there is one which deserves to be noticed, on account of its importance, viz. the manner in which the *Opuntia* (*European Indian Fig*) is employed to fertilize the old lavas at the foot of Mount Etna. As soon as a fissure is perceived, a branch or joint of an opuntia is stuck in, and the latter pushes out roots, which are nourished by the rain that collects around them, or by whatever dust or organic remains may have collected into a little soil. These roots once developed, insinuate themselves into the most minute crevices, expand, and finally break up the lava into fragments. Opuntias treated in this manner produce a great deal of fruit, which is sold as a refreshing food throughout all the towns of Sicily.—[Decandolle.]

On the Culture of the Garden Bean.—I have been very successful for half-a-dozen years in obtaining two crops of beans from the same plants. In the summer of 1826, my first crop of magazan and early long-pod beans was, by a very strong and violent wind, blown down; this was done when the beans were in full blossom. The crop from the blossoms which the plants then possessd was very fine and abundant, and gathered during July. In three weeks after the beans were prostrated, each stem pushed forth from near the root one or more, in some instances four to six fresh stems; these bloomed freely and produced an abundant crop, which was gathered during September. Since that grew, I have uniformly bent down, so as to break the stalk near the root, my first and second crops of beans; I have by this means obtained four crops of beans from two sowings, and which supplied me from July 1st to 31st October. By this method only half the seed was required which I had been accustomed to use, and the greatest advantage to me was that only half the ground was required, so that my advantages by this method are fourfold. I always pinch out the tops when the plants are in full bloom; this throws the vigor into the production of fruit instead of a continued increase of stem and foliage.—[Mr. James Falkland, Pentonville, in the Gardener's and Forester's Record, No. 3.]

To destroy Moles in Gardens.—Collect earth worms, kill them, and mix them with the powder of nux vomica. After the mixture has remained in a heap for 24 hours, take the worms and place one or two here and there in the routes and holes of the moles. The desired effect is said to be the result.—[Bulletin Universel.]

Emigrants to Canada.—Comparative statement of the number of emigrants arrived at Quebec, during the last four years:

WHERE FROM.	1829.	1830.	1831.	1832.
England	3,544	6,799	15,313	17,481
Ireland,	9,634	18,300	34,133	28,204
Scotland,	2,643	2,450	5,354	5,500
Hamburgh & Gibraltar,	....	....	....	9
Demerara,	....	....	....	6
Nova Scotia, New Brunswick, & Newfoundland,	124	451	424	547
	15,945	27,990	55,224	51,746

Committals in England and Wales.—Table showing the increased number of committals for trial, since the deduction on the duties of beer and spirits, in the course of the last ten years:

Committed in England and Wales, in			1823	12,263
Do.	do.	do.	1824	13,698
Do.	do.	do.	1825	14,437
Duty on spirits lowed.....			1826	16,164
Do.	do.	.....	1827	17,924
Do.	do.	.....	1828	16,564
Do.	do.	.....	1829	18,675
Beer duty repealed.....		.....	1830	18,107
Do.	do	.....	1831	19,646
Do.	do	.....	1832	20,829

[Parliamentary Paper, 29th March, 1833.]

Flour and Meal—*The Annual Report.*—By the report of the Flour Inspector in this city, made to the Legislature of the State, it appears the amount of inspections from 1st January, 1833, to 1st January, 1834, were as follows:

Wheat Flour.

		Average Value.
Superfine - - - - bbls.	922,033	$5,81½
Do. - - - - hf bbls.	34,445	3,00
Fine - - - - - bbls.	18,383	5,44
Do. - - - - hf bbls.	——	2,75
Bad - - - - - - bbls.	29,957	4,62½
Do. - - - - hf bbls.	574	2,44
Fine Middlings - - bbls.	7,486	5,00
Middlings - - - - bbls.	5,827	4,50
Ship Stuff - - - - bbls.	2,248	4,00
Do. - - - - hf bbls.	12	2,12½

Rye Flour.

Barrels - - - - - - - -	16,007	3,75

Indian Meal.

Barrels - - - - - - - -	19,300	3,75
Hogsheads - - - - - - -	5,843	17,00

Buckwheat.

Barrels - - - - - - - -	35	4,00
Half do. - - - - - - -	104	2,50
Total value - - - -	$5,763,080	06
Value last year - -	5,312,983	21
Value year before - -	5,390,797	85

Inspections for Three Years.

	1831.	1832.	1833.
Wheat Flour—			
Barrels -	915,687	827,241	985,934
Half bbls.	25,187	25,570	35,065
Rye Flour—			
Barrels -	9,222	12,676	16,007
Buckwheat—			
Barrels -	197	128	35
Half bbls.	405	244	104
Indian Meal—			
Barrels -	24,076	12,774	19,300
Hogsheads	9,951	7,154	5,848
Total in N. Y.,	984,725	885,787	1,062,293
Do. in Brooklyn,			
Wheat Flour—			
Barrels -	5,627	4,835	5,541

Export.

Of Wheat Flour, from New-York to Foreign Ports, for two years—

	1832.	1833.
To Great Britain - bbls.	13,221	13,511
France - - - do.	22,460	600
Gibraltar - - - do.	3,257	2,098
Madeira - - - do.	1,825	437
North of Europe do.	280	——
Cape of Good Hope do.	280	350
British Colonies, West Indies, & S. Amer.	154,291	183,844

Total Export to all foreign ports—

In 1827 - barrels	178,222
1828 - - do.	207,246
1829 - - do.	220,441
1830 - - do.	304,352
1831 - - do.	437,104
1832 - - do.	195,614
1833 - - do.	200,840

Inspector's Fees.

For boring, inspecting, plugging and branding, each hogshead - - -	3 cents.
For boring, inspecting, plugging and branding, each barrel and half barrel - - - - - - - - -	1 "
Weighing each barrel, light - -	6¼ "

Ballinasloe in Ireland.—In the Quarterly Journal of Agriculture, there is an article on the counties of Wexford and Galway, from which we make the subjoined extract:

The state of Ballinasloe, where pigs have no chartered privilege to occupy the streets, to the annoyance of the better class of the inhabitants, is a proof of our assertion. This town presents a perfect model of cleanliness and order, from having been as dirty as Loughrea, or any other town in the province of Connaught. Its description, until the efforts of Archdeacon Trench, the brother of Lord Clancarty, undertook the task of reforming its condition, is thus graphically given by Mr. Dutton. "When I first saw Ballinasloe, it was not outdone by even Galway in either filth or a vicious police. The doors of the houses were almost inaccessible through dunghills as high as the eaves of the cottages, and an uncontrolled ingress given to all kinds of vagabonds, male and female. In the day-time, in even the best part of the town, it was difficult to pass from one house to another, the footpath was so blocked up with cars, pigs, and other nuisances. In the night, you were obliged, from a regard to your neck or your shins, to wade ankle-deep through puddle, in the middle of the street. Even here, you were lucky if you escaped a tumble over a pig or a large stone, or escaped a Scotch salute, without the Edinburgh caution of 'ware heads.' Now, what a contrast! the footpath well paved, and swept *every day;* not even a bowl of water permitted to be emptied into the streets (*what a hardship!*); not a car, or carriage, even those of gentlemen, permitted to stand in the street *without horses;* not a a dunghill or loose stone; every ale-house shut up at an early hour; not a shop open during divine service; vagabonds and idle women sent to Bridewell; the footpaths well gravelled for a considerable distance on every road round the town, and posts fixed to keep off the wheels of carriages, &c. All this, and much more, has been accomplished by a steady, yet discriminating, adherence to regulations calculated for the general good. They were at first violently opposed, as lately, in Galway, by those who, blinded by prejudice and old habits, were insensible to the blessings of cleanliness; yet they now seem to be sensible, that the health and comforts they enjoy have more than compensated for the loss of any of their former imaginary and filthy conveniences. The change has been effected by a well-digested and *impartial* system of rewards and punishments; and I think the motto to Lord Clancarty's printed regulations might very justly be 'The wreath or the rod.'"

Oil Cakes.—The manufacture of oil cakes is carried on to a great extent in Germany, Flanders, France, and Holland, from whence the English graziers and farmers are principally supplied; indeed, occasionally, the English crushers import foreign cakes, and *re-press* them through their own mills, extracting a considerable portion of oil therefrom; and then they form them into a "town made shape," and sell them as "*home manufactured*," which, in point of fact, they really are.

Dutch Cows.—The Dutch farmers reckon that 30 cows at grass will give from 100 to 200 lbs. fine butter, and about 300 lbs. Kanter or common cheese per week.

Management of Calves in Holland.—From the fact that Hollanders are distinguished for their dairy husbandry, their management of calves is deserving of attention. We find the following in the Transactions of the Highland Society of Scotland:

The most approved method of treating the calf is as follows: It is immediately after its birth taken from the cow, put in a separate place, and laid on dry straw. A little salt is given, and the tongue and mouth rubbed with it. It is also rubbed clean with straw. After the lapse of six or eight hours, the first beesting of the mother cow, diluted with one-third water, is given to the calf to drink, and this treatment is continued for some days, the liquid being given thrice a-day. Thereafter, during two or three weeks, they give the calf the milk as it comes from the cow, diluted with one-fourth water, in which now and then a small handful of sand is put; then churn-milk is gradually given, and it is supplied with hay; at the age of ten weeks it is brought out to the meadow, where it is also supplied with skimmed milk, churned milk, or whey. In this way each farmer raises the proper number of quey calves to fill up vacancies; but calves fattened for sale have milk from the cow three times a day.

For some days after calving the cow is milked thrice a day, and they then return to the usual practice of milking twice a-day.

Cleanliness of the Dutch.—As to cleanliness, every dwelling-house is a model and a pattern; they seem to vie with each other on this point. The cowhouse is pure and clean, not a particle of filth being to be seen in it; the cows are as clean as if they were in a dining room; the milk and cheese houses, and in short every part of the house, are free from dust and dirt of any kind; the manure is placed at a convenient distance from the cowhouse, behind the house, and every particle is carefully collected together. The whole apartments, even the byre and hay-house, are generally under one roof; and the cleanly system, and the admirable arrangement, give that comfort and pleasure which are too often wanting in this country.

Recipes.—*For an Olive Green.* Let the article be first washed in soap and water, then wetted out in warm water; then boil two ounces of chipped logwood and three ounces of chipped fustic together for half an hour; dip out your dye liquor, and put it into a pan with hot water; put in your goods; dissolve two drachms of verdigris in a teacup-full of warm water, which put into a pan of cold water; take your gown from the dye, and run it through the verdigris water, well handling it for ten minutes; take it out and wash it in clean water, and through the dye liquor, and again in the verdigris water, and so continue this process till you obtain the color required, only taking care to wash it out of the verdigris water before you put it in the dye liquor: dry it in the shade.

For Yellow Cotton.—To make a lemon yellow, first wash your article well in soap and water, then rinse it in warm water. For every yard of stout cotton, dissolve a piece of blue vitriol as large as a horse bean, in boiling water; and when the water is at a hand-heat, put the cotton in, and handle it for half an hour. In the interim take a quarter of a pound of weld for every yard of cotton, and boil it well for half an hour; dip the liquor out in a pan, and handle your cotton through this till it comes to the fullness required; take it out to cool, and when cold, wash it out, and dry it in the air.

Water in Flour.—Most important researches have recently been carried on in Paris by MM. Payen and Persoz, on the several points in the chemical history of bread, flour, and grain. Their observations are not yet published in detail; but we select the following as being one of the very highest commercial dietetic importance. They have found that 100 parts of flour, sold as dry, and imparting no moist stain to blotting paper, contain, under atmospheric circumstances, 19 per cent. of water, and but 89 of dry nutritive matter; that flour exposed to moist air contains as much as 23 per cent. of water; that the finest flour employed by the bakers contains 16 per cent. under ordinary circumstances. In summer these proportions are reduced, but they are remarkably increased in moist weather. Thus, the quantity of flour which, by weight, at the rate of 5 per cent. of water, would produce 150 lbs. of bread, will produce but 127¾ lbs., when the same weight of flour is purchased in long continued wet weather. The prices of flour should, consequently, in all seasons, be based on the quantity of dry matter it contains, and which a simple and rapidly performed experiment would exactly indicate. Thus, by placing 100 grains of flour on a plate, and heating them on a vessel of boiling water for one hour, the loss sustained will denote the precise quantity of water mixed with the flour.—[Universal Corn Reporter.]

Golenos Oak.—This large tree, which was felled in 1810, grew about four miles from the town of Newport, in Monmouthshire. The main trunk at 10 feet long, produced 450 feet; one limb 355, another 472, a third 235, a fourth 156, a fifth 106, a sixth 113, and six other limbs of an inferior size averaged 93 feet each, making the whole number 2426 cubic feet of sound and convertible timber. The bark was estimated at 6 tons; but as some of the heavy body-bark was stolen out of the barge at Newport, the exact weight is not known. Five men were twenty days stripping and cutting down this tree; and a pair of sawyers were five months converting it, without losing a day, Sundays excepted. The money paid for converting only, independently of the expense of carriage, was £82; and the whole produce of the tree, when brought to market, was within a trifle of £600. It was bought standing for £405. The main trunk was 9½ feet in diameter, and in sawing it through, a stone was discovered, six feet from the ground, above a yard in the body of the tree through which the saw cut; the stone was about six inches in diameter, and completely shut in, but round which there was not the least symptom of decay. The rings in its butt were carefully reckoned, and amounted to above four hundred in number, a convincing proof that this tree was in an improving state for upwards of 400 years; and as the ends of some of its branches were decayed, and had dropped off, it is presumed it had stood a great number of years after it had attained maturity.—[Times Telescope, vol. 3.]

Preservation of Substances by means of Alkalis.—M. Payen has preserved, during many months, polished instruments of iron and steel, by keeping them in solutions of potash and soda,—saturated solutions diluted with one, two, or three times their weight of water. He at first thought that the preserving power depended upon the disappearance of the air, and the carbonic acid in the alkaline mixture, but he afterwards concluded that alkalinity acted an essential part in the phenomenon. In fact, a very small quantity of alkali is sufficient; thus, $\frac{1}{2000}$ and even $\frac{1}{3000}$ of caustic potash in water will preserve from oxidation bars of iron, &c. immersed in it. Lime water, diluted with its own weight of water, or of course without dilution, answers the same purpose. Alkaline carbonates and borax have the same effect, but they must necessarily be stronger.—[Revue Encyclopedique.]